

PLUS CD-ROM Red Eye Pilot 1.0 (full version), plug-ins, images and more..

Adobe Photoshop

Advanced Tool Techniques

Master Photoshop's tools
and become
an instant
expert



FocusGuide
From the makers of **Computer Arts**



**132 pages of easy-to-follow tutorials and expert advice
to help develop your Adobe Photoshop skills**



Help your skills to evolve...

Push Photoshop's tools to their limits and watch your images improve. We'll guide you through it...

What's your favourite tool in Photoshop's toolbox? Most users have one or two tools that they come back to time after time, perfecting their technique as they go. Unfortunately it's also true to say that many Photoshop users don't have much clue when it comes to using some of the less common tools, and even the more advanced features of old favourites like the Brush and the Eraser can present quite a challenge.

So, this month we're making it our mission to broaden your knowledge of the toolbox, helping you to take on all those peculiar options and functions which have always seemed a bit scary. Armed with a little enthusiasm and this Focus Guide, you'll find it easy to improve your techniques with a whole range of Photoshop's tools and give your creative potential a massive boost along the way. Starting with the selection tools in Chapter 1, we'll demonstrate a whole range of advanced techniques, culminating in a case study that will bring all of your new-found knowledge together.

On your bonus CD-ROM this month you'll find our best ever collection of Photoshop resources, with Red Eye Pilot 1.0 leading the way. This incredibly easy-to-use utility will get rid of red-eye in just a click or two, substituting a more natural hue, whilst preserving the fine details of the original eye. Besides this top tool we've stock images, plug-ins, video lessons, samples from O'Reilly books and a whole lot more besides. It's everything you need to take your Photoshop skills to the next level!





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Finding your way

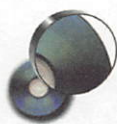
Our handy icons hold the key to a wealth of additional information. Here's what they all mean...

With so much to tell you about advanced ways of working with Photoshop's toolset, it's hard to find room for all the information we want to pack in. That's why you'll find the special icons that occupy the margins on each page so useful.

As you leaf through the pages, you'll find a range of eye-catching symbols, each of which indicates an extra nugget of knowledge. The icons enable you to identify exactly what kind of information you're dealing with – for a guide to icon

categories, see below. These handy hints and tips are always relevant to the topic that's being discussed, and will help you develop your Photoshop skills that little bit faster.

Our writers are always experienced Photoshop experts who regularly contribute to our sister magazines, such as *Computer Arts*, *Computer Arts Projects* and *Digital Camera Magazine*. So you can rest assured that all the information they provide is both authoritative, and thoroughly tried and tested.



On your CD-ROM

Tutorial files, trial software and more besides is included on your CD-ROM. Every now and then we remind you of this by flagging-up the disc icon and listing what's on it. Handy, eh?



Take note

You'll find a number of these nuggets of knowledge scattered throughout the Guide. They're crammed with useful information that complements the main text perfectly.



Top tips

This indicates an expert tip. Anything sheltered beneath this icon is guaranteed to reveal a useful tip, or advice about Photoshop's range of tools, options and features.



Watch out!

The 'skull and crossbones' sign means proceed with caution. You'll find some important points outlined below this icon, which you should certainly take seriously.



Further information

We'd like to tell you absolutely everything, but there's just not enough space. Instead we refer you to other useful resources, such as websites and specialist books for further reading.



Links

When we refer to a website, we may pull out the web address in the sidebar to make it easier for you to read and remember.



Shortcuts

Carrying out common tasks again and again can get a little tedious. Our handy shortcuts show you how to carry out these tasks with a few deft key-presses, saving you lots of time and effort.

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Chapter 1

SIMPLE TOOLS FOR ADVANCED SELECTIONS

In this chapter...

- ☐ *Get the most out of basic Marquee tools*
- ☐ *Learn to use keyboard commands to go beyond basic tool functions*
- ☐ *Understand the advantages of various Tolerance settings*
- ☐ *Learn to look for selection data within individual channels*
- ☐ *Start moving elements between open files*

We'll start out by looking at basic Marquee Tool selection techniques that will come in handy on a daily basis, and see how to get the best out of the Magic Wand and Move tools

Selections are the basis of almost everything that we do in Photoshop. Isolating individual elements in, or sections of, an image is essential for even the most basic image manipulation. It's no coincidence that the Marquee Tool sits at the top of the Photoshop toolbox; it's one of the first tools most users will reach for.

Basic selection techniques are obvious enough but, when you evolve beyond simple clicking and dragging with the Marquee tools, you'll begin to see that there are some very simple ways in which you can manipulate them to make them more efficient and useful.

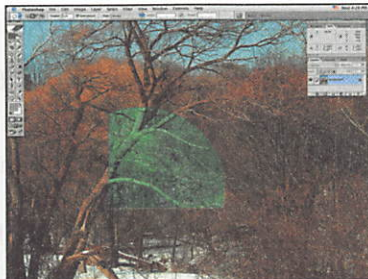
An essential element in making effective use of the Marquee tools is the keyboard. You need to get into the habit of using keyboard commands with your mouse to change the behaviour and function of your marquees.

Magic Wand selections

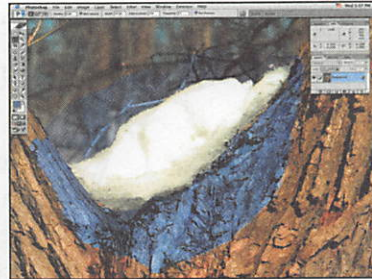
Granted, the Magic Wand is seen by many advanced Photoshop users as a rather substandard selection tool. A lot of users are put off initially by the rough-edged selections that are generated when they click within sections of their images. However, don't hastily dismiss the Magic Wand without



Page 12 Use the keyboard to constrain the axes of your Marquee selections



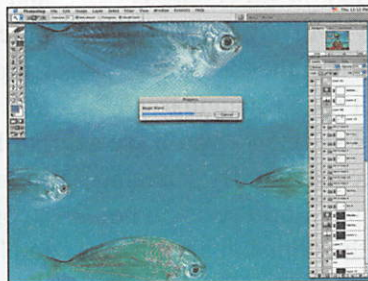
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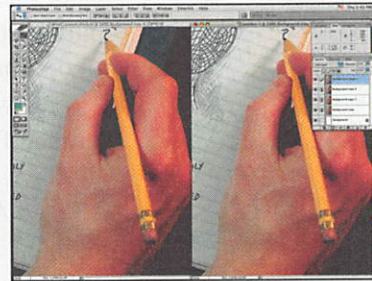
Page 15 Learn how to create compound selections using the Magnetic Lasso Tool



Page 16 Use the Magic Wand Tool in areas other than the composite channel



Page 18 Explore a variety of additional functions available with the Magic Wand



Page 19 Learn how to drag groups of linked layers intact between files

looking at the larger picture. The Magic Wand may not be an end in itself when it comes to creating selections, but it can be highly effective when used in creative and less-than-obvious ways.

Understanding how the Tolerance setting can be used effectively is also very important. In order to get the most out of the Magic Wand you need to understand the versatility of the tool, and use it in a flexible manner. There's much more to creating selections with the Magic Wand than simply leaving the Tolerance set at the 32-pixel default. You should also think about the nuts and bolts of your images –

the colour channels – when creating Magic Wand selections.

All the right moves

The Move Tool is very capable and effective when it comes to moving layers and selection contents. But once again, if you think outside the box you'll see that this tool is bigger and better than you might have thought. Start thinking about the Move Tool as a way to move things between files; there are ways to transfer content and layers from image to image. It's also possible in many cases to retain the position of certain layers from file to file, and move stacks of linked layers intact.

Creating constrained selections

Create perfect circular or square selections by using the [Shift] key with the Marquee tools



Changing modes

The great thing about using the [Shift] key while drawing with Marquee tools is that it only affects the tool temporarily, and it then returns to its normal operating mode. If you're going to alter the tool via the Style pull-down menu or one of the mode buttons in the tool options bar, remember that the tool will operate in this altered manner until you switch it back to normal.

When you click and drag with the Rectangular Marquee Tool the result is exactly that – a simple rectangular-shaped marquee. However, if you want a perfect square selection the procedure is slightly more involved. Look at the tool options bar at the top of the interface with the Rectangular Marquee Tool selected – you'll see a pull-down Style menu. By selecting the Fixed Aspect Ratio you will be presented with width and height fields. You'll need to enter equal numbers in these fields, for example

1 and 1. After you've entered the new values in the fields the Marquee Tool will behave differently. Clicking and dragging will create a perfect square shape with equal horizontal and vertical measurements. The procedure is exactly the same for the Elliptical Marquee Tool if you want to create perfectly-circular selections. For both Marquee tools the default setting for Style is Normal. To create a constrained shape while working in Normal mode you simply hold down the [Shift] key while clicking and dragging.

ADDING TO A SELECTION

The Shift key has other uses in addition to constraining axes

You've seen that holding down [Shift] as you click and drag will create a shape with a constrained aspect ratio, such as a square or a circle. But the [Shift] key has another use when creating marquee selections. By default, a new selection is created each time you click and drag; if another selection is active it will automatically be deselected before the new one is created. However, if you hold down the [Shift] key and draw a second selection, it will be added to the existing active selection instead of deactivating it. Holding down the [Shift] key will temporarily switch the Marquee Tool mode from 'New selection' to 'Add to selection' in the tool options bar.



A selection is drawn around the man's left eye, then a second marquee is drawn and added to the selection

Changing origin points

The Alt key on a PC (Option on a Mac) offers a function you won't find in the tool options bar

Something you probably don't think about when drawing selections with the Rectangular and Elliptical Marquee tools is the origin points of your selections. The origin point of your marquee selection is always at the first point where you click on the canvas. Then, depending on the direction in which you drag, the selection is created outwards from the origin point. Most right-handed people will draw selections from the top-left to bottom-right. However, what would you say if we told you there was a

way to have your origin points in the centre of your marquee selections? You would probably think we were making it up, because there's no evident option for this in the tool options bar. But, just because there's no evident checkbox or pull-down menu for this option, that doesn't mean it doesn't exist. All you need to do is to direct your attention to the [Alt/Option] key on the keyboard. Holding down [Alt/Option] while you click and drag will enable you to create a marquee selection outwards from a central origin point.



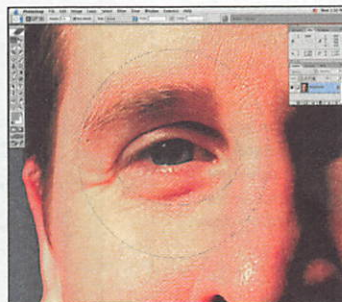
Combined keys

You now know that you can constrain the shapes you draw with your Marquee tool by holding down the [Shift] key, and that you can also specify a central origin point by holding down the [Alt/Option] key. But try using the keys together. Drawing an initial marquee while holding down the [Alt/Option]+[Shift] keys will draw a constrained shape selection from a central origin point.

SUBTRACTING FROM A SELECTION

Another wonderful use of the [Alt/Option] key is revealed

When you're using a Marquee tool, direct your attention to the four buttons at the left of the tool options bar. These control how the tool behaves. The first button, 'New selection', is the default setting for the Marquee tools. This tells the tool to create a new selection each time it's used, deselecting any previous selections. Now go to the third button from the left. This button, the 'Subtract from selection' button, enables you to preserve an existing selection and use the Marquee Tool to remove areas of the selection. Holding down [Alt/Option] while working in 'New selection' mode will temporarily switch the Marquee Tool to 'Subtract from selection' mode.



Here a second elliptical selection was drawn inside the original to subtract the area from the selection

Areas of intersection

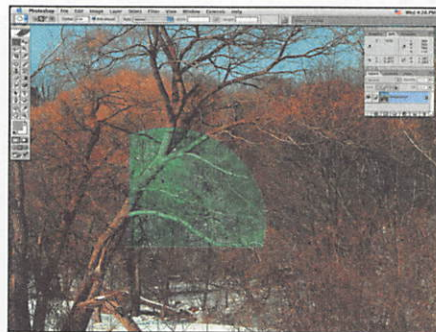
Here's a fast way to select intersecting areas using two keys and the Marquee tools



Moving selections

Just because you create a selection in a certain area of your image, that doesn't mean it has to stay there. Like most things in Photoshop, active selections can be moved. Simply use any selection tool to click inside an active selection and drag it. This will move the selection border, but not the contents of the selection.

With the Marquee Tool selected direct your attention to the tool options bar once again. The fourth button from the left is the 'Intersect with selection' button – a very interesting mode. With this enabled, any selection that you draw that intersects areas of an existing active selection will be used to create a new selection. The resulting selection will only be made up of the areas of intersection. A simple way of employing this method while working in 'New selection' mode is to hold down the [Alt/Option]+[Shift]



In this image an elliptical marquee was drawn over part of the existing rectangular selection, and then the colour was changed

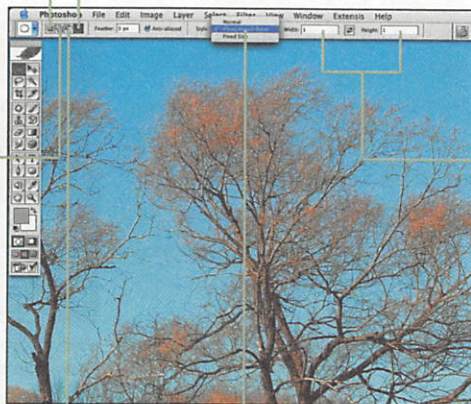
keys. While you're holding down the keys, the mode is temporarily changed to 'Intersect with selection'.

ACCESSING MARQUEE TOOL FUNCTIONS

'New selection' mode is the default mode. When this mode is enabled, each time you draw a selection any previously existing selections are deselected.

'Add to selection' mode keeps previous selections active and adds any new selections to them. Access this mode by holding down the [Shift] key.

'Subtract from selection' mode preserves any existing selections and subtracts any new selections from them. To access this mode hold down the [Alt/Option] key.



Use the 'Intersect with selection' option to create selections from intersecting areas. Temporarily work this way by holding down the [Alt/Option]+[Shift] keys.

Setting these values to the same number will create perfect squares or circles. Temporarily holding down the [Shift] key accomplishes the same effect.

The Fixed Aspect Ratio style will allow you to create Rectangular and Elliptical Marquee selections while preserving preset width and height ratios.

Lasso Tool techniques

Get the most out of the Lasso Tool by making use of some familiar keys

The Lasso Tool is terrific for creating quick freeform selections. It's a very flexible tool in terms of what it can do, but perhaps not as evident is how flexible it is to use. The way it works can be changed on-the-fly to achieve quick and effective selections. As with the other Marquee tools, the secret to using the Lasso effectively is to get the hang of using the keyboard alongside the mouse. When drawing with the Lasso Tool, try holding down the [Alt/Option] key and letting go of the mouse

button. Then move the mouse to a different area on the screen and click, move it again and click. By holding down the [Alt/Option] key you've switched it to Polygonal mode, wherein it draws a series of straight lines between the points you define by clicking. Then, with the mouse button held down, release the [Alt/Option] key and continue to draw. This returns the Lasso Tool to its regular freehand mode. Be careful not to release one button before pressing another, or your selection will be closed automatically.



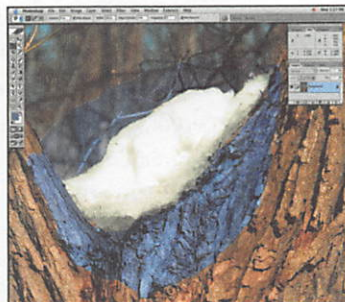
Closing up

The Magnetic Lasso doesn't automatically close selections like the regular Lasso Tool when you release it. In order to close a selection you must either make your way back to, and click on, your initial point, or press the [Enter] key to draw a straight line from the first point to the last.

MAGNETIC LASSO TECHNIQUES

Use the keyboard to take the Magnetic Lasso functions further

The Magnetic Lasso is a very useful tool that helps you create selections in a semi-automated manner. It relies on values that you set in the tool options bar to define the parameters for what it does, which is snap to areas of edge contrast. When you click and drag roughly over the areas you want selected, the Magnetic Lasso creates a precise selection. As with other selection tools you can add, subtract and intersect via the use of the [Alt/Option] and [Shift] keys. The keys do the same thing as for the other tools; the interesting thing here is that any additions, subtractions, or intersections you make adhere to the variables set in the tool options bar.



This adjusted area was defined via a rough Magnetic Lasso Tool selection, then the central area was subtracted

Understanding tolerance

The Magic Wand Tool offers you the ability to alter the ranges of colour that it selects



There's more...

Not only are the individual colour channels at your disposal, you can also use the Magic Wand Tool to generate selections from your alpha channels. Also, layer masks can be used when they're selected in the Layers palette, and you can even make Magic Wand selections from the ranges of colour your mask displays in Quick Mask mode.

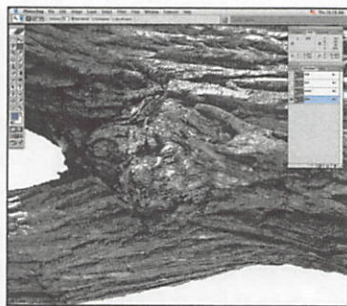
The key to using the Magic Wand Tool effectively is to understand the Tolerance setting, which allows you to enter a value from 0 to 255 pixels. This value controls how tolerant the Wand will be when selecting ranges of colour. The lower the value you enter, the more selective the Wand is, and it will only include a range of colours very close to the specified colour. The higher the value, the broader the range of selected colours becomes. The default setting for the Magic Wand Tool is 32, which is not a bad

start. If you want to make very restricted selections, such as the black areas of a line drawing, Tolerance settings of under 10 will work well. But, if you're interested in broader ranges of colour like various skin shades and tones within a photograph, a Tolerance setting above 70 is a good start. Each image will be different, but developing a sense of where to start is the key. When you see the results of your initial Magic Wand selection, you can always undo it, and tweak the Tolerance setting accordingly.

LOOKING DEEPER

You can base a selection on more than the composite channel

The composite channel is what you see most of the time in your image window. This channel is a visual representation of the combined individual colour channels. These individual channels are part of your image, and you can make use of them at any point. Often ranges of colour will only be visible within individual colour channels. You can use the Magic Wand to select ranges of colour from within individual channels. Select a channel in the Channels palette instead of the composite channel. You can disable the visibility of the composite channel by clicking on the eye icon to the left of it, to display the selected colour channel only.

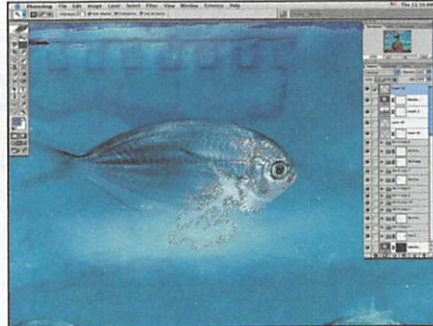


Here the Blue channel was selected, and the visibility of the composite channel was disabled

Useful Magic Wand options

Check out the tool options bar to find some excellent additional Magic Wand features

To the right of the Tolerance setting in the tool options bar are three Magic Wand options. The first, Anti-aliased, smoothes the edge transitions of your selections. This function will almost always be enabled. The second, Contiguous, will, when enabled, only allow the Wand to select adjacent (touching) pixels within the specified range. If disabled, all of the similar-coloured pixels within the image will be selected, adjacent or not. The final option is Use All Layers. This allows you to select ranges of colour not



The Use All Layers and Contiguous functions are very handy when you want to generate a limited selection based on stacked layers in a collage

only from your current active layer, but based upon colour data from all visible layers.



Color range

If you prefer the methods employed by the Magic Wand for selecting areas of colour based on Tolerance and range, then there's another feature worth exploring. Under the Select menu you'll find the Color Range Tool. It takes the concept of selecting by range a step further, offering you a variety of previews and a Fuzziness control.

MAGIC WAND KEYBOARD COMMANDS

- ☐ **THE [SHIFT]** key will switch the selection mode from 'New selection' to 'Add to selection'. This will allow you add selected ranges of colour to existing selections without deselecting them first.
- ☐ **THE [ALT/OPTION]** key switches the selection mode to 'Subtract from selection'. With this option enabled the ranges of colour you select will be subtracted from any existing selections.
- ☐ **THE [ALT/OPTION]+[SHIFT]** keys together will switch the Magic Wand to 'Intersect with selection' mode. Any ranges you choose will produce a selection based on the intersection points of newly-selected ranges with those contained within existing selections only.
- ☐ **RIGHT-CLICKING** the mouse (holding [Control] and clicking on a Mac) while using the Wand will display a pop-up menu with contents that vary depending upon whether or not you have an existing selection.



Select similar

Under the Select menu, you will find the Similar option. This option will look at the range of colour that exists within a selection and then add to the selection by finding areas of colour throughout the image that fall within that range. The Select > Similar function relies on the Magic Wand's Tolerance setting for how sensitive it is when defining selection borders.

Using Magic Wand functions

You can achieve great results when you're generating selections based on colour ranges



Transparency

The Magic Wand Tool is quite diverse in the way that it allows you to select ranges of colour from within your images, your channels and even your masks. However, it's not just pixel content that you can use. The Magic Wand can also be used to select areas of transparency on your active layer by simply clicking within the appropriate area. Just make certain that the Use All Layers option is disabled.

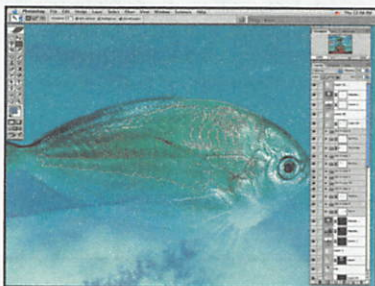


Alternative selection methods

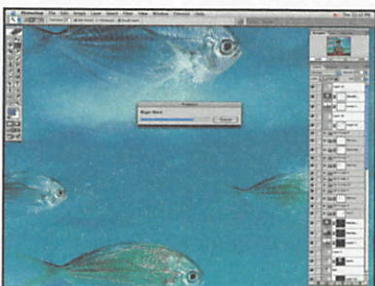
There are other ways to generate selections based on your layer contents. One is to hold down the [Control] key and click on a layer icon in the Layers palette. This generates a selection based on the content of that layer. Another way is to right-click ([Control]+click on a Mac) on a layer icon; this opens a pop-up menu containing an option to select the layer transparency.



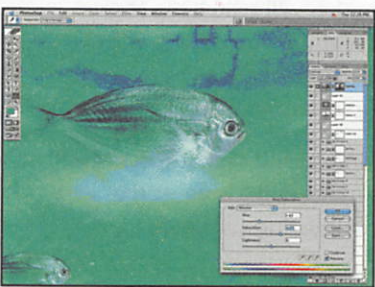
1 You'll almost always have anti-aliased enabled when using the Magic Wand Tool. After a while you won't even notice this checkbox – it will simply remain enabled. Since this is a multi-layered file, in which layers react together to produce the resulting image, we'll also enable the Use All Layers function.



2 The default Tolerance setting is 32, so let's reduce it to around 20 to make it a little more selective. Enabling the Contiguous option ensures that only adjacent pixels within the selected range will be selected. Clicking once on the cyan area of a single fish's back will generate a selection in that area based upon the colour clicked on, and the Tolerance setting.



3 Contiguous is unchecked so that further selections aren't limited to adjacent pixels. Holding down [Shift] will temporarily change the mode to 'Add to selection'. With this key held down, clicking on a similar colour in another fish will add this newly-selected range of colour in all areas of the image to the existing selection. When working with large files, be prepared to wait for the results.



4 Increasing the Tolerance to 50 increases the sensitivity of the Magic Wand when selecting ranges. With the [Alt/Option] key held down, clicking on a white area of one of the fish removes the newly-selected range throughout the entire image, using data from all layers in the existing selection. Here, an adjustment layer was created using the newly-selected area.

Moving between files

The functionality of the Move Tool means it's not limited to working within one file at a time

Perhaps one of the truly unsung features of the Move Tool is that it's not limited to being used within a single image file. But most Photoshop users will have been cutting and pasting from file to file for so long that they simply never think of using the Move Tool to do it. To move a layer from one file to another, first make certain that the viewing mode you're using allows you to see both the open files at the same time. Then, with no selection active, simply click anywhere within the layer that you want to use and

drag it into the image window of the other open file. Another method is to click on a layer icon in the Layers palette and drag it into the other file. To move the contents of a selection only, simply click within the selection border and drag it into the other file. Holding down the [Shift] key while clicking and dragging will preserve the exact positioning of elements from file to file, provided that there are no active selections in the destination, and that both files have the exact same pixel dimensions.



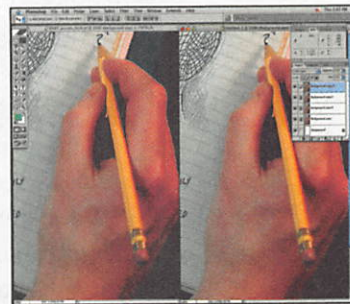
Locking layers

There will be times when you have everything positioned exactly where you want it within your file, and any accidental movements of layer positions would be unwanted. In cases like this direct your attention to the Layers palette. In the Lock options you'll notice a button that resembles the Move Tool icon. Clicking on this button will lock the positioning of the current layer.

MOVING LINKED LAYERS

Ever wanted to move linked layer groups from file to file intact?

The Layers palette allows you to only select one layer at a time. The problem with this is that when you drag a layer from the Layers palette into another file, only the layer you drag is moved, even though it's linked to other layers in the original file. What you need to do, with no selection active, is select any one of the layers in the linked group. When you've selected a layer, click anywhere on the canvas with the Move Tool and drag on to the canvas area of the destination file. This will move your group of linked layers intact. Again, using the [Shift] key will preserve positioning when using files of the exact same size.



After dragging the linked layers from the source file to the destination file, the latter comes to the foreground

Chapter 2

PAINT BUCKET AND GRADIENT TOOL OPTIONS

In this chapter...

- ☐ Get more out of the Paint Bucket Tool
- ☐ Learn to create new gradients and alter existing ones
- ☐ Understand exactly what the Gradient Editor has to offer
- ☐ Learn to use gradients as masking and selection tools

The Paint Bucket and Gradient tools share the same place in the toolbox and may seem like simple enough tools on the surface, but a little exploration reveals that this isn't the case...

Often mistaken for a tool that simply creates basic solid coloured fills, the Paint Bucket Tool is capable of much more. It doesn't exactly possess an arsenal of features, but the functionality that it does offer makes it a far more versatile and efficient tool than many users give it credit for. The Paint Bucket seems to borrow some of its best features from a handful of other familiar Photoshop tools. Comparisons can be drawn between basic layer technology and some of the Paint Bucket features, such as blending modes and varying opacity. Users of the Magic Wand, Blur and Smudge tools will find the Use All

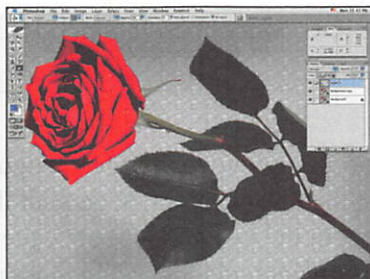
Layers function quite familiar. And the Tolerance setting is again very familiar to those well acquainted with the Magic Wand Tool.

Gradients

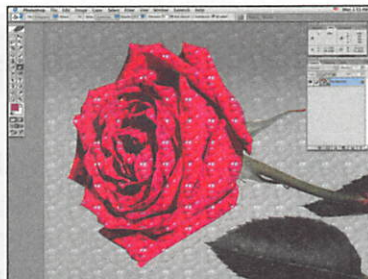
With only five different styles to choose from, the Gradient Tool may seem less than impressive to the novice Photoshop user. However, a little bit of investigation into the gradient features in the tool's options bar reveals that most users only see the tip of the iceberg. Looking closer, it soon becomes apparent that it has a plethora of functions that will remain undiscovered if you don't explore the nuts and bolts of the



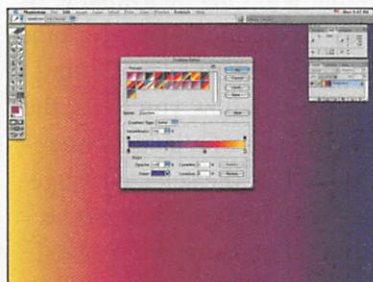
Page 23 See the results of using different Paint Bucket blending modes



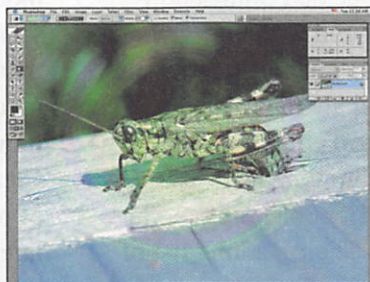
Page 24 Use the Paint Bucket's pattern options to create interesting effects



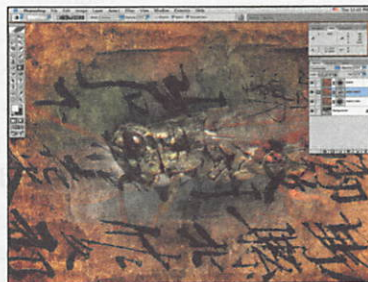
Page 25 Discover how to constrain your fills within the borders of a selection



Page 28 Open up the Gradient Editor and have a look at what it can offer you



Page 30 Learn about the unusual Noise gradient and see how to edit roughness



Page 31 The Foreground to Transparent preset is a powerful masking tool

tool. The Gradient Editor offers everything that you'll ever need to create custom gradients from scratch, or alter the existing preset gradients. You can be much more creative when creating your own gradients; the options allow you to deviate greatly from the proverbial blend of one single colour into another. There are controls that allow you to adjust the smoothness and roughness of the blend, change endpoint colours and opacity and alter the positioning of midpoints. When you begin fiddling with the Gradient Editor you'll quickly discover that there are an almost infinite number of possibilities –

and don't forget that when you've created your perfect gradient you can save it within Photoshop to use again and again.

Transparency

The ability of the Gradient Tool to blend colour to transparency should never be underestimated. This takes the tool to another level, and lends it to a number of other uses which are not immediately obvious. The Foreground to Transparent option for gradients is not only for image effects; it can be a valuable masking tool when you're working with channel-based functions like layer masks and Quick Mask mode.

Paint Bucket blending modes

You can achieve some interesting effects by experimenting with different blending modes



Transparency locks

When you're using the Paint Bucket Tool on a layer other than the background layer, check whether the transparency lock for that specific layer is enabled or not. If the lock is enabled you won't be able to work with the Behind and Clear blending modes, because these work by altering existing transparency.

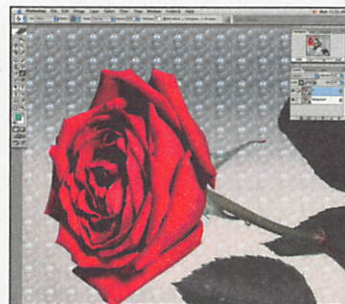
You'll notice as you dig a little deeper that the blending mode options appear in the tool options bar of a number of paint tools, including the Paint Bucket. Specifying a blending mode determines how pixels will blend with underlying pixels in your image. Specifically, when you fill an area with the Paint Bucket, the fill colour is added to the underlying imagery using whatever current blending mode is specified. There's a long list of blending modes in the tool options bar; dodging, burning, overlaying,

lightening and mixing are just some of the effects that can be used to alter the contrast and saturation of your image. There are also a couple of transparency-related blending modes that will only be available if you're using the tool on a layer other than the background layer. Behind mode will only allow you to fill the transparent parts of a layer, while Clear mode fills the selected range of pixels with transparency. Some interesting effects can be achieved by using these two modes with a variety of opacity settings.

EXPLORING THE PATTERN OPTION

Change the look of your fills using Photoshop's patterns

The first option at the left of the Paint Bucket's tool options bar is probably the most important setting in terms of the effect on your image. There's a major difference between the two options on offer. The default option, Normal, will more than likely be the one you most frequently use. It's more predictable and appropriate for day-to-day Photoshop tasks. But if it's variety, or unpredictable effects that you're after, have a look at the second option: Pattern. The Pattern function gives you access to the Photoshop pattern picker. You can select any of the available patterns to use as your fill, and all the blending mode options are still available.

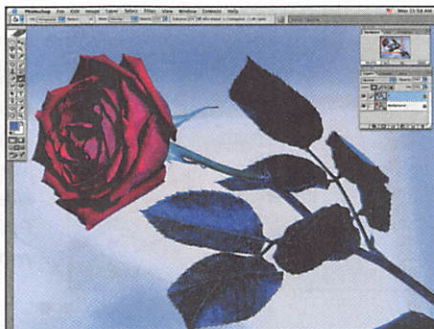


Here we've filled the background with the preset Bubbles pattern, with the blending mode set to Overlay

Looks familiar

You'll find that using the Paint Bucket is similar to using the Magic Wand in many ways

When you select the Paint Bucket Tool you'll notice that many of the functions provided in the tool options bar bear a striking resemblance to the Magic Wand Tool options. In the same way that the Magic Wand enables you to generate a selection within a specified range of colour, the Paint Bucket Tool allows you to define a fill area. The Tolerance setting is present for the Paint Bucket, so the flexibility in defining the range is just as powerful. Also, the Use All Layers and Contiguous options are



The main difference to using the Magic Wand is that the Paint Bucket fills the selected range with colour, instead of generating a selection

present, making the methods for working with the Paint Bucket almost identical to the Magic Wand.



Switching to the Eyedropper

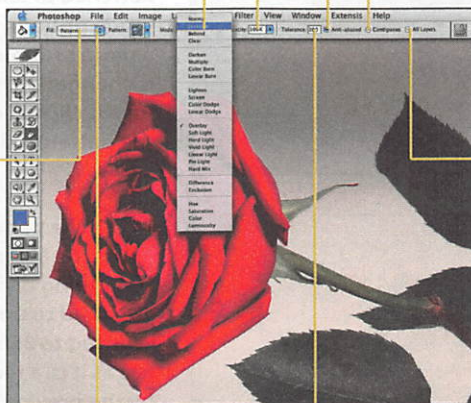
As with many of Photoshop's paint tools, holding down the [Alt] key ([Option] on a Mac) while using the Paint Bucket will temporarily switch it to the Eyedropper Tool, allowing you to select a new colour for range definition. Releasing the [Alt] key switches you back to the Paint Bucket, but your sampled foreground colour remains in the toolbox.

PAINT BUCKET OPTIONS EXPLAINED

The Paint Bucket offers many of the same blending modes as the Layers palette, as well as the facility to alter the opacity of your fill.

This setting changes how the tool works dramatically. Foreground uses a foreground colour specified by you, whereas Pattern uses a preset for a patterned fill.

When using the Pattern method you can choose from any of the pattern files that exist within the pattern preset picker.



Anti-aliased smooths the edge pixels that define your area, and Contiguous restricts the fill to only adjacent pixels.

Not enough can be said about the Use All Layers function. Colour data is sampled from all underlying layers when defining the range to be filled.

Alter the Paint Bucket sensitivity using the Tolerance setting. It works exactly like the Magic Wand Tolerance, with a range between 0 and 255.

Using Paint Bucket options

Create interesting effects with the options offered by this often-underestimated tool



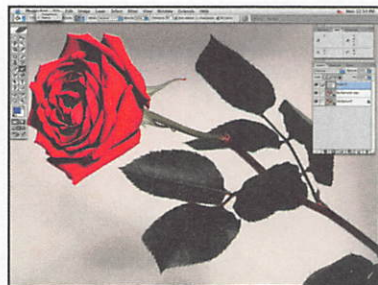
Paint Bucket modes

Although the blending modes are available in the tool options bar when using the Paint Bucket, you can access them on-the-fly without having to return to the top of the Photoshop interface. Simply right-click anywhere on the canvas while using the Paint Bucket and a pop-up menu will appear directly under your cursor that will allow you to select a blending mode from the list.

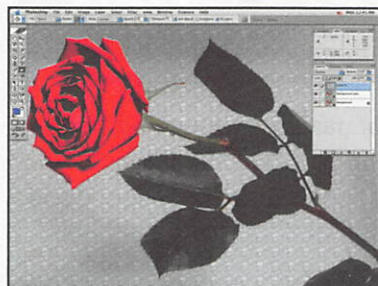


When using layers

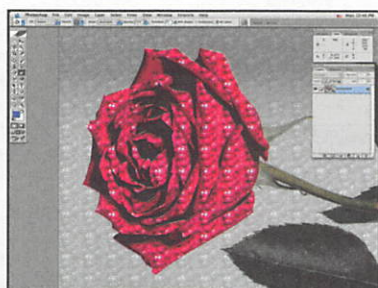
Remember that the blending mode specified for the Paint Bucket Tool is different from a layer blending mode. The blending mode for your tool will only be evident against underlying pixels on the same layer. If you have a fill with an Overlay blending mode, it will look fine on top of pixels of colour within the current layer, but as soon as you begin to stray into areas of transparency the result of the blending modes will differ.



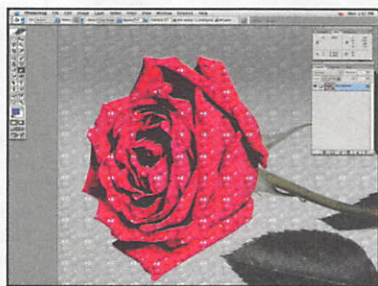
1 This image has a top layer with an Overlay blending mode, which means that what you see on the canvas is a result of how the pixels of both layers blend together. The Use All Layers function of the Paint Bucket Tool is enabled. A new layer with a Normal blending mode is created for the fills that the Paint Bucket Tool will generate, then the tool mode is switched to Pattern.



2 The Bubbles pattern is selected from the pattern preset picker. The blending mode is left at Normal and the Tolerance is increased to 70 to allow a broader range within the fill. Reducing the opacity to 20% allows us to see the background through the fill which will be created on this layer. Clicking on one of the shades in the background creates the fill.



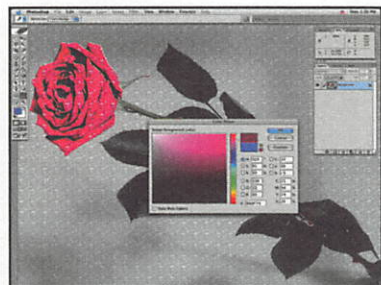
3 The fill is subtle due to its low opacity, yet still covers a broad range because of the Tolerance setting. Next, the image is flattened to take full advantage of the blending mode options, and the opacity is increased for a more pronounced result. The blending mode is changed to Hard Light and a red area of the rose is clicked on, filling the range of reds with the pattern using the current blending mode.



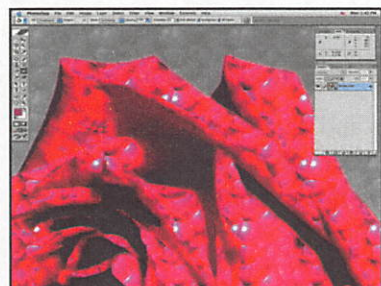
4 The pattern preset is switched to the Molecular option to incorporate something different. The blending mode is switched to Color Dodge and the opacity is reduced to 35%. With the Tolerance setting left as it is, a red area within the rose, unfilled by the previous pattern, is clicked on. This strange, bubbled effect shows what can be achieved with a little experimentation.

Combining tools

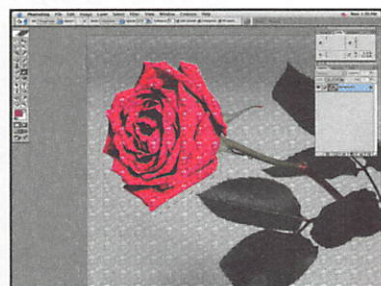
More interesting effects can be created using the Contiguous function with active selections



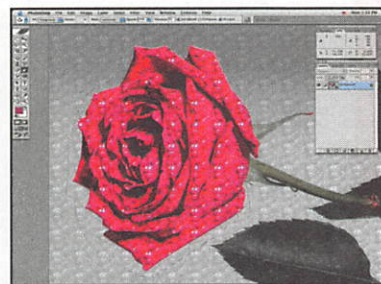
1 The Fill mode is switched from Pattern to Foreground to create some fills of a more traditional nature. Clicking on the 'Set foreground color' icon allows us to select a dark magenta from the Color Picker. The Contiguous option is then enabled, as we're going to concentrate on the dark areas of the rose petals, and don't want to affect dark colours in other areas, such as the stem.



2 The Tolerance setting is reduced to 50, so that the range of colour included within the fill will be smaller. The Luminosity blending mode is selected because the foreground colour is lighter than the shaded areas, and clicking inside the areas will lighten them. When a single area is clicked in, only the adjacent pixels are filled, as you can see here.



3 Now it's time to see what we can do with a combination of tools. With the Lasso Tool we draw a rough selection around all the rose petals – we don't have to worry about straying into the background, as it's different enough to remain unaffected. It's the stem and leaves that we want to exclude from this selection, because their colour range is similar to that of the shadows in the petals.



4 The Contiguous option is disabled so that the filled areas in the image don't have to be adjacent pixels. Clicking on a shaded area of the rose petals within the selection fills all similar areas within the range defined by the tolerance setting. Normally this would affect the entire image, but because a selection is being used the fill will only affect selected areas.



Colour sampling

We've seen that holding down the [Alt/Option] key will temporarily turn the Paint Bucket Tool into the Eyedropper Tool. However, if you hold down the [Alt/Option] key at the same time as you hold down [Shift] you'll get temporary access to the Color Sampler Tool.



Using selections

In this walkthrough you'll notice that it's possible to constrain the effects of the Paint Bucket Tool to a selection border defined by the Lasso Tool. This technique will work within any type of selection, not just one created by the Lasso. Feel free to explore the Marquee selection tools, the Magic Wand and even Quick Mask mode while using the Paint Bucket.

The five available gradients

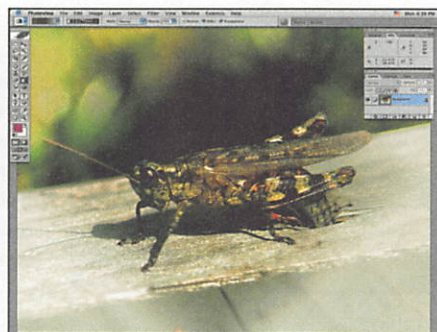
Each of the five gradient options is unique, but some are more practical than others



Older versions

Those of you using older versions of Photoshop may have difficulty finding any gradient options other than Linear and Radial. Version 7.0 and the latest CS version offer you all five options, but for many years Photoshop only offered the two basic gradients.

When you select the Gradient Tool you'll notice that you're presented with five options in the tool options bar. The Linear and Radial options are the most basic, and for many purposes they're the most practical. You can create some wonderful effects simply by blending a single foreground colour into a single background colour or into transparency. The others options – Angle, Reflected and Diamond – tend to produce results that are more noticeable, but getting creative when it comes to colours used, blending



With colours sampled from the image and the blending mode set to overlay, this diamond gradient produces a highly-effective result

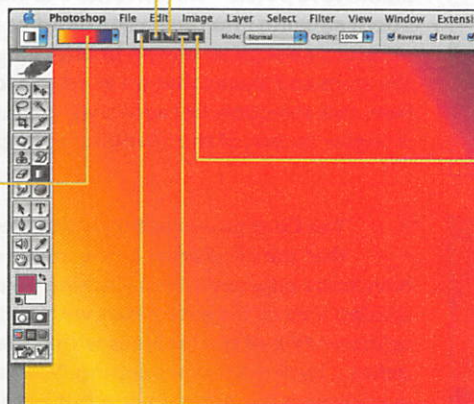
modes and opacity will help to make even the relatively simple Linear and Radial effects more interesting.

GRADIENT OPTIONS EXPLAINED

Clicking and dragging with the Radial option creates a gradient shaded from the starting point outward in a circular pattern 'radiating' from the centre of the image.

This where your current gradient is displayed. Clicking here will open the Gradient Editor, in which you can alter the gradient further.

Clicking and dragging with the Linear Gradient option shades from the startpoint to the endpoint in a straight line.



Clicking and dragging with the Angle option will shade in a sweep, counter-clockwise from your origin point – an interesting effect indeed.

Clicking and dragging with the Diamond option shades outwards from the centre in a diamond pattern. This is the cheesiest gradient by far!

Clicking and dragging with the Reflected option creates two linear gradients that mirror each other in opposite directions out from the starting point.

Gradient Editor stops

Understanding stops is vital when it comes to editing gradients, or creating your own

Opening the Gradient Editor for the first time gives you an idea of what you can create with this amazing tool. We'll begin by explaining solid gradients, because they're the most commonly used. The first thing that you need to become familiar with when creating or editing gradients is 'stops'. The endpoints of your gradients are made up of two stops each, an opacity stop and a colour stop. The opacity stop is on top of the gradient bar and the colour stop is underneath. Depending upon which

stop you click on you'll be presented with different options in the stops area below. When you click on a colour stop you're presented with options that allow you to choose a colour from the Color Picker and alter the positioning of it. When you click on an opacity stop you're presented with options for altering its opacity and positioning. Either stop can be manually dragged to alter its position along the gradient at any time, and opacity and colour stops can be moved independently of each other.



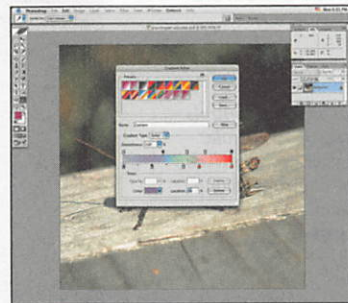
Gradient presets

While it's possible to access all the presets within the Gradient Editor, you may find yourself in situations where you simply want to use a preset as it appears, without editing it. In such cases you can access the presets independently by clicking on the little triangle button to the right of the Gradient Editor in the tool options bar. This will present you with the presets only.

ADDING AND REMOVING STOPS

Gradients get more complex when you start adding stops

To add a colour stop just click anywhere along the bottom of the gradient; a colour stop is added, and you can alter it in the Stops section below. To add an opacity stop, click along the top of the gradient and again edit it in the Stops section. Whenever you add a new stop, a midpoint will be created on either side of it. The midpoint looks like a diamond, and can be moved from left to right to alter the transition of colour or opacity between stops. To remove an opacity stop, click on it and drag it upwards until it disappears. The procedure is similar for removing colour stops, except that you need to drag them downwards.



When you've mastered the art of working with stops you can create any custom gradient that you like

Creating and saving gradients

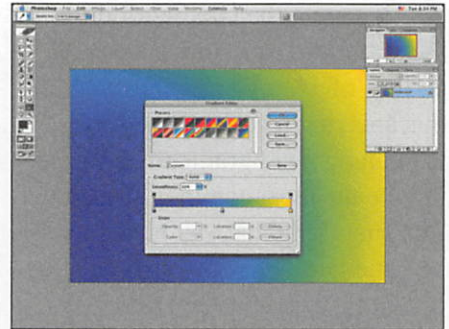
The Gradient Editor also enables you to create and save your own custom gradients



Preset libraries

You can save your current list of presets as a custom library – simply click on **File > Save** and you'll be able to create a file with the suffix '.grd', which indicates that it's a gradient preset library. Clicking the **Load** button will enable you to load any existing gradient preset libraries – the presets will be added to the Gradient Editor along with the current library.

Clicking on a gradient in the tool options bar launches the Gradient Editor, which allows you to edit the current gradient. When you've finished editing your gradient, you can save it as a new gradient preset file to use again. Simply enter a name in the Name field and click the **New** button. This creates a preset file of the current edited active gradient, and places it alongside the other presets. You can rename a gradient at any point by double-clicking its icon in the preset window. A gradient preset can be



As soon as you click on the **New** button you'll notice that your current gradient is visible at the end of the list of presets

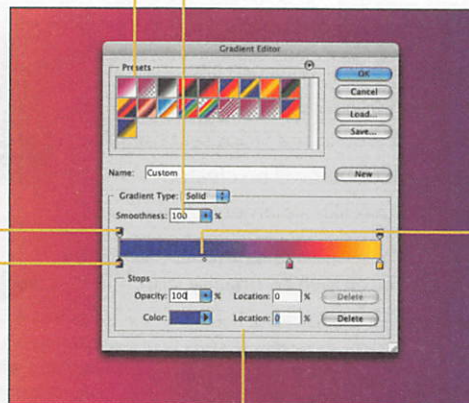
deleted by right-clicking on it and choosing **Delete Gradient** from the pop-up menu.

INSIDE THE GRADIENT EDITOR

You can select and edit any gradient from the Preset area. Any new gradient that you create will be added to the existing presets.

The opacity stop controls the opacity of a particular point on your gradient. It can be moved anywhere along the gradient, and the opacity can be altered.

Colour stops allow you to add custom colours from the Color Picker, or from within your image. The stops can be moved, and the colours can be altered.



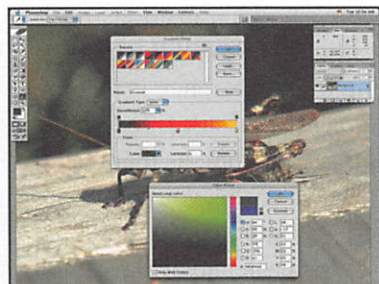
This slider enables you to adjust the smoothness of solid gradients and the roughness of Noise gradients.

When a new stop is added a midpoint will appear between the new stop and any others. The midpoint can be moved, altering the transition of colour.

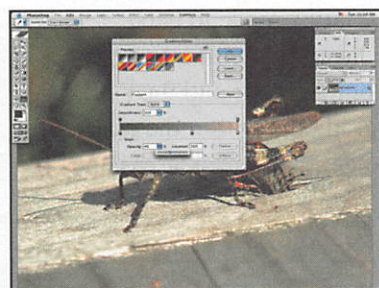
The Stops section allows you to edit your selected stop. Only certain options are available, depending on whether you're dealing with an opacity or colour stop.

Using the Gradient Editor

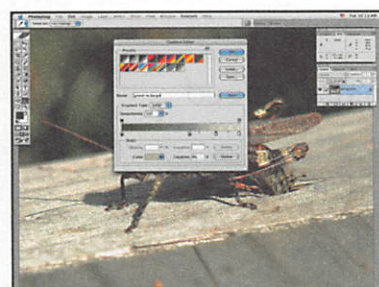
You can create your own gradients to suit individual images using the Gradient Editor



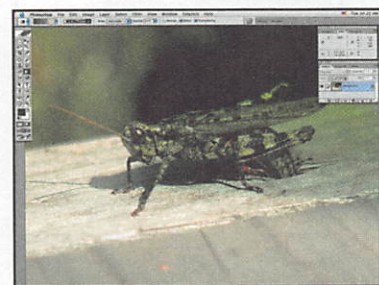
1 Here the Gradient Tool was selected, and the Gradient Editor was opened in the tool options bar. The Blue, Red, Yellow gradient was chosen as a starting point from the list of presets. The first job was to change the colours. Clicking on the left coloured stop opened the Color Picker, and the colour was changed to a deep green to match the predominant green in the image.



2 The middle colour stop was changed to a greyish blue, and the colour stop on the far right changed to a beige. The positioning of the coloured stops was adjusted, as were the midpoints, to alter the shading within the gradient. Clicking on the opacity stop at the far right allowed us to reduce the opacity of that section of the gradient to 40%, incorporating transparency.



3 A new colour stop was created by clicking along the bottom of the gradient bar. It was given a very light yellow colour and placed at the far-right, overlapping the beige stop. Then the beige stop was moved to the left and the midpoint adjusted. The gradient was then renamed, and added to the existing preset library.



4 Next we clicked OK to exit the Gradient Editor. With the new gradient preset selected, the Linear option was chosen with an Overlay blending mode. The opacity was reduced to 60% and a gradient was drawn from the top of the image to the bottom. The diamond option was selected, opacity was returned to 100% and a gradient was drawn from top-right to bottom-left.



Transparency

Even if you've created a custom gradient in the Gradient Editor that makes use of transparency by reducing the opacity of one or more opacity stops, it doesn't necessarily mean that this transparency will be evident when employing the gradient within your image. In the tool options bar you must have the Transparency option enabled by checking the Transparency checkbox.



Sampling colour

When you're changing the colour of a colour stop in the Gradient Editor you need to access the Color Picker via the options provided. However, you don't have to choose colours by using the Color Picker only. With the picker open, running your cursor out over the image window will cause it to change to an Eyedropper, with which you can sample any colour from your image to use for your selected colour stop.

Understanding transparency

Adjusting the opacity of gradients makes them useful for a variety of less-than-obvious tasks



Not just for masks

Using a Foreground to Transparent preset gradient can also be a helpful tool when working in Quick Mask mode. Using black, white and shades of grey, you can create and edit a series of overlapping gradients within a single mask to create a graduated, soft-edged custom selection.

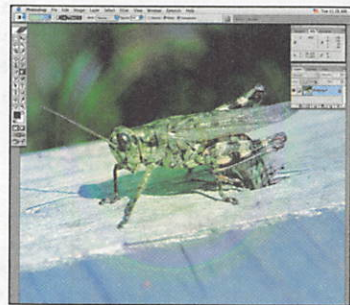
One of the most useful options that appears in the gradient preset picker is a rather simple one – the Foreground to Transparent option. Blending a single colour into transparency may not exactly seem like rocket science on the surface, but when you explore this option a little further you'll see that it's an essential tool for compositing, masking and creating graduated selection borders. The Foreground to Transparent option, when used with a foreground colour of black, is a terrific tool for editing Layer masks,

producing smooth transitions while compositing. The great thing about blending to transparency is that the entire image area isn't filled with a background colour, as there isn't one. Because of this you can build up a series of gradients within a single layer mask and achieve some quite beautiful graduated mask effects, tailor-made to each image layer. Switching to a white foreground colour and then adding more gradients within the mask will help to gently unmask areas and make them visible again.

NOISE GRADIENTS

Your other gradient option is quite a strange animal indeed

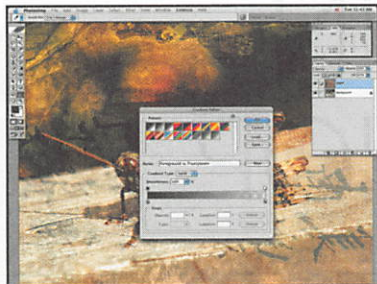
A pull-down menu in the Gradient Editor allows you to choose between a Solid gradient or a Noise gradient. When you switch to Noise you'll notice your gradient looks quite different, and the editing options change considerably. A Noise gradient is basically a gradient with randomly-distributed colours within a range specified by you. You can base your Noise gradient on an existing gradient by choosing a preset from the menu and selecting the Noise option. The Roughness slider allows you to increase or decrease the amount of noise in your gradient; going beyond a value of 30 or so will make your Noise gradient obvious.



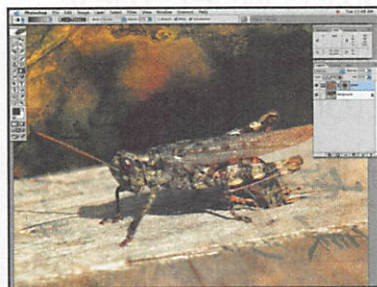
Noise gradients can be effective when used in a subtle manner, combined with alternative blending modes

Using gradients when masking

The simple Foreground to Transparent gradient preset is probably the most versatile of the lot



1 We started with two open images, and the antique paper image was dragged into the grasshopper image as a new layer. The blending mode of the layer was changed to Overlay, then an empty layer mask was added by choosing Layer > Add Layer Mask > Reveal All. With the new layer mask selected, the Gradient Tool was selected, and the Gradient Editor was opened from the tool options bar.



2 The Foreground to Transparent preset was chosen from the Presets. The Radial option was selected, and a foreground colour of black was specified in the toolbox. A gradient, with a Normal blending mode and an opacity of 100%, was created within the layer mask by clicking and dragging from the centre outwards, gently masking the paper that overlaps the grasshopper.



3 The layer was duplicated by choosing Layer > Duplicate Layer. The duplicate was dragged below the previous layer in the Layers palette and the blending mode was changed to Normal. In the layer mask the Gradient Tool was used with the same settings to draw a few gradients over the head area of the grasshopper, aggressively masking this area with a build-up of radial gradients.



4 The layer was duplicated again, and the blending mode was changed to Luminosity. The foreground colour was changed to white. The Gradient Tool was then used within the layer mask to draw a series of small radial gradients around the head of the grasshopper. Using white to transparent gradients within the mask gently reveals the content of the image layer.



Colour models

When you're working with Noise gradients, by default the colours used are from an RGB colour model. However, within the Gradient Editor options you'll find a colour model pull-down menu that enables you to select from RGB, HSB or Lab colour mode.



Selection areas

Throughout this chapter we've shown you many of the uses and functions of gradients. In addition, it's worth mentioning that your gradients don't always have to encompass entire layers, or the entire canvas area, as in the examples here. Like many other painting and editing tools, gradients can be used in areas defined by selection borders as well.

Chapter 3

WORKING WITH VECTORS IN PHOTOSHOP

In this chapter...

- ☐ Master the Add, Subtract and Intersect functions for paths and shape layers
- ☐ Automatically add and delete points along a path
- ☐ Master the Freeform Pen Tool and its magnetic function
- ☐ Use combinations of paths to create compound selections
- ☐ Convert and edit individual points along your paths
- ☐ Import and edit custom shapes from Adobe Illustrator

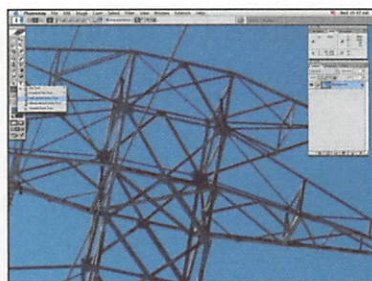
Many people only think of pixels when they think of Photoshop. But the integration of resolution-independent vector tools opens up a whole new range of possibilities

Vectors play by a different set of rules to pixels. Resolution is not a concern, and editing vectors causes no loss of detail or image quality. With each new version of Photoshop the integration of vectors becomes more comprehensive, and quite seamless as well. As new vector tools are added or improved, their integration into the pixel realm seems more and more appropriate, and these days the purists who said that vectors belong only in Adobe Illustrator are eating their words.

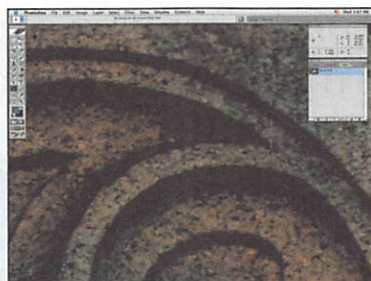
Paths

Paths are terrific tools for defining the areas of sharp-edged selections;

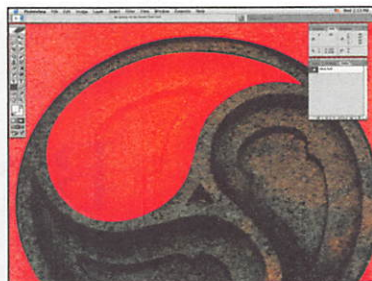
their precise edges and bezier curve technology make them very useful. At first the clicking and dragging techniques will seem a little daunting, but it all becomes intuitive enough very quickly. However, there's functionality that goes beyond the obvious methods of working with paths, and there's a plethora of features waiting to be explored that will allow you to make the most of them. Individual points can be created or deleted automatically, and points can be split in half or edited in a way that will make straight segments curved or curved segments straight. As with selections, you'll find that paths lend themselves to



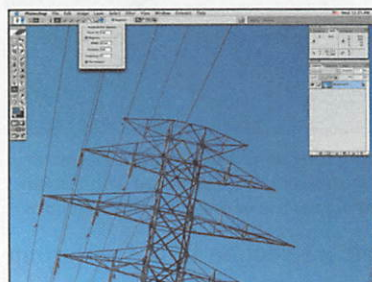
Page 36 Discover how to automatically add and delete points on existing paths



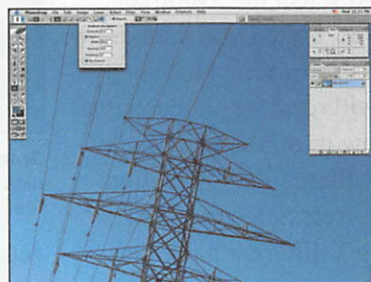
Page 37 Find out how to alter each side of an anchor point independently



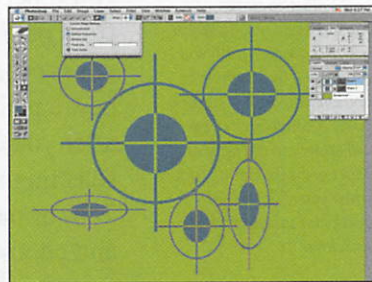
Page 37 See how the path area functions affect your selected areas



Page 38 Learn how to turn the Freeform Pen into a powerful and versatile tool



Page 39 Add your own shapes to the Custom Shape picker and save presets



Page 40 See the results of employing the various Custom Shape options

the world of boolean operations, allowing you to add, subtract and intersect groups of two or more paths. The Paths palette itself provides everything you need to stroke and fill existing paths, as well as use them to clip images in page layout programs such as QuarkXPress or Adobe InDesign. You can even create complex selections by using more than one existing path.

Shape layers

Although they play by the same rules as paths, don't be fooled; shape layers are a different animal entirely. Although they employ vector technology in the same manner as

paths, and will often share the same palette and editing tools, shape layers differ in the fact that they're layer-based, whereas paths are based within the Paths palette. Like paths, shape layers offer much more than is immediately obvious. Most of the advanced functions come into play when you get acquainted with the Custom Shape Tool. Custom shapes can be created and saved within Photoshop, and can also be imported from Illustrator. This handshake between Illustrator and Photoshop hopefully points to a future where vectors and pixels become even more integrated and seamless inside applications like Photoshop.

What are path areas?

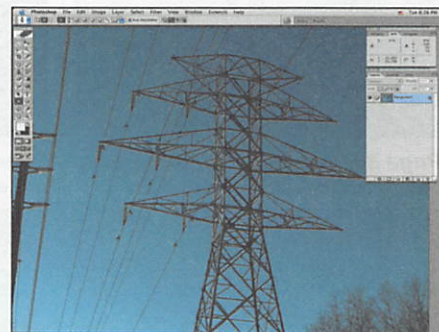
Gain an understanding of path area functions, and use multiple paths to create selections



Beware of open paths

To generate proper selections from paths your paths must be closed, or you'll see odd results. When you're drawing a path you can close it by returning to, and clicking on, the starting point. A small open circle will appear to the right of your cursor, indicating that when you click on that particular spot, the path will close.

By default, when you draw a path, the 'Add to path area' option is enabled in the tool options bar. However, if you want to knock a second path out of the first one, you'll need to select the 'Subtract from path area' button and then draw your second shape. You can change how a path will react with other paths after you draw it, or at any point, by selecting it with the Path Selection Tool or the Direct Selection Tool and choosing a different path area function. You won't see the results of the path area operations until you



Generating selections around image elements such as this tower can be achieved with the Pen Tool, and proper use of the path area functions

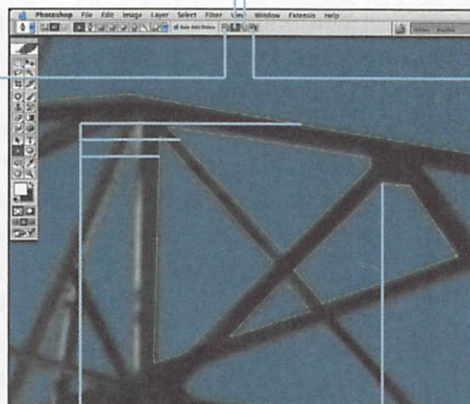
generate a selection from your group of subpaths. Your finished path area defines your selection.

PATH AREA OPERATIONS EXPLAINED

The 'Subtract from path area' function allows you to remove any areas defined by new paths which overlap areas of existing paths.

The 'Add to path area' function will add any new paths to the existing path area, whether they're overlapping or not.

Even if your path components have different path area functions applied to them, you won't see the results until you generate a selection from the path.



The 'Intersect path area' option, when enabled, only allows the areas of paths that overlap to define any resulting selections.

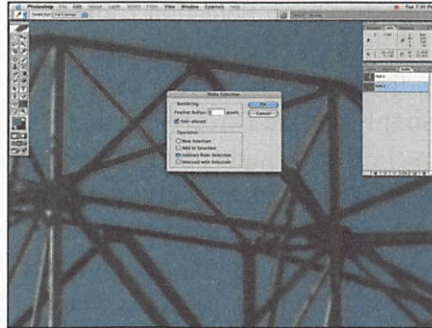
The 'Exclude overlapping path areas' option does just what it says. Any overlapping path areas will be excluded from your selection.

You can change how path components operate by selecting them and specifying a path area operation from the tool options bar.

Using the Paths palette

Use the Paths palette to create complex selections from multiple paths

Users of older versions of Photoshop will recognise this technique of generating a single compound selection from more than one path. First, you'll need to have separate paths in the Paths palette for each selection component. Next you need to generate a selection from your main path by selecting it in the Paths palette and clicking on the 'Load path as a selection' button. Next, select another path to alter the selection in the Paths palette, and hold down [Alt/Option] while clicking 'Load path as a selection'.



The Make Selection dialog box offers up all the same options as the path area functions, except here they're called operations

A dialog box appears offering you all the path area functions that can be found in the tool options bar.



Path icons

Pay attention to your path icons in the Paths palette – they reveal more than you might think. The small preview shown in each path thumbnail reveals the results of the path area, and how it's affected by individual path components. The path areas that will be inside your selection border are white, whereas the areas that lie outside of the selection border appear grey.

PALETTE MENU OPTIONS

- ☐ **PATH FEATURES** can be accessed in the Paths palette menu by clicking on the triangle button at the upper-right of the palette, or by clicking on buttons along the bottom of the palette itself. Here are three favourites:
- ☐ **FILL PATH** allows you to fill the currently-selected path with a specified colour, a history state, a fill layer or a pattern. Colour values will appear on the active layer, so make sure the layer you want to affect is selected.
- ☐ **STROKE PATH** uses the current settings of the Brush Tool to add a stroke to your pixel content on the active layer. Be certain that you have your brush set up before you use this option.
- ☐ **SPECIFYING A PATH** as a clipping path means that your image contents will be defined by your path area when the file is imported into a page layout application.



Operations

There are keyboard shortcuts for employing the path operations without using the Make Selection dialog box. Hold down the [Control] key and click on a path icon to create a selection. Hold down [Control]+[Shift] while clicking a path icon to add it to a selection. Hold down [Control]+[Alt/Option] while clicking a path icon to remove it from a selection. Hold down [Control]+[Alt/Option]+[Shift] while clicking a path icon to generate a selection based on where the path intersects the current selection. (Mac users substitute [Command] for [Control]).

Converting and editing points

All the points within any path can be edited or altered by using two specific path-editing tools



Pen Tool toggle

You can toggle between the two main vector tools inside the Pen Tool pull-down menu using the keyboard. When you have either the Pen Tool or the Freeform Pen Tool selected, pressing [Shift]+[P] will switch it to the other tool.

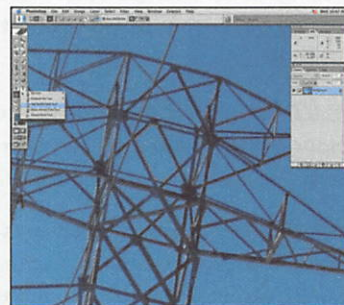
The Direct Selection Tool allows you to select and edit individual points of your path. Simply use the Direct Selection Tool to click on a single point along your path to edit it independently of the rest of the path. When you click on a point, the direction lines on either side of the anchor point become visible. The direction points on the ends of the direction lines can be moved by using the Direct Selection Tool – this will cause the curved line segments on either side of your path to change. Holding down the [Shift]

key while moving the direction points constrains movements to 45 degrees. You can also edit the curve on only one side of an anchor point by clicking and dragging on a single direction point using the Convert Point Tool – this breaks the pair of direction lines. Clicking on a smooth curved point with the Convert Point Tool changes it to a sharp corner point without direction lines. Clicking and dragging on a sharp corner point will convert it to a smooth curved point with direction lines.

ADDING AND DELETING ANCHOR POINTS

Paths can be altered quickly by using the Auto feature

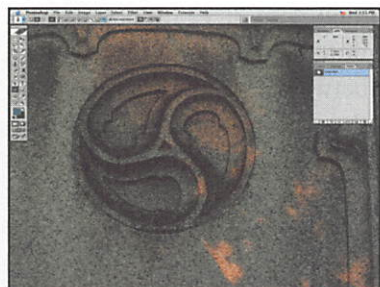
You can, of course, use the add and delete tools nested within the Pen Tool button in the toolbox. But if you direct your attention to the tool options bar you'll notice an Auto Add/Delete checkbox; enable the feature by clicking on the checkbox. Then, while using the Pen Tool, run the cursor over a path line segment – you'll see that the cursor will display a plus symbol to the right. Click on the line segment and a point will be added to it. Conversely, holding the mouse pointer over an existing point displays a minus symbol at the lower-right. Clicking on the point will remove it, and reshape the path within the other points.



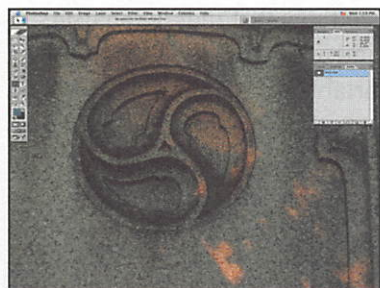
The add and delete point tools are available under the Pen Tool menu, but the Auto function is more efficient

Advanced path techniques

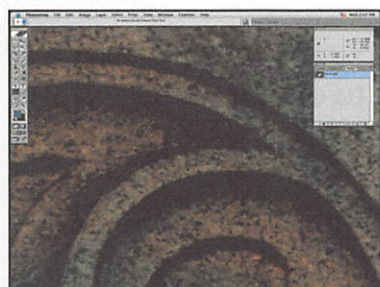
There's much more to working with vector paths than simply clicking and dragging



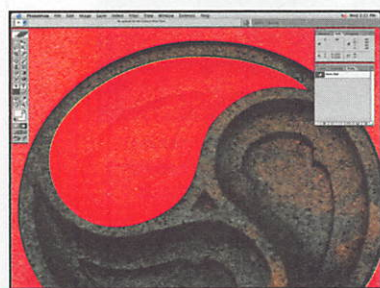
1 When the Pen Tool is first used, the default path area option is set to 'Add to path area'. Leaving the path area set to the default, a rough path was created around the outside of the circle in this image by clicking and dragging, using smooth points to create a curved path component. The path component is closed by returning to, and clicking on, the first point.



2 The Direct Selection Tool is used to reposition individual points and adjust the shape of the path. The same tool is used to move the direction lines, and alter the curves of the line segments. The Pen Tool is again selected, and the Auto Add/Delete function is enabled. Clicking on the line segment at the upper-right adds a point to it, which is then repositioned using the Direct Selection Tool.



3 The Pen Tool's 'Subtract from path area' option is enabled in the tool options bar and another closed path component is drawn, using all smooth points, roughly around a section of the image inside the circle. The Convert Point Tool is selected, and used to click and drag on a direction point, allowing us to adjust the curve of a line segment on one side of the anchor point only.



4 The direction line on the other side of the anchor point is moved in the same way. The curve is adjusted until it surrounds the section imagery better. The Direct Selection Tool is used to edit the other points and line segments so that they follow the contour of the image. A selection is then generated from the path in the Paths palette, shown here in Quick Mask mode to highlight the results.



Converting points

When you're using the Pen Tool, there's a quicker way to access the Convert Point Tool than going to the Pen Tool pop-up menu in the toolbox. Simply hold down the [Alt] key ([Option] on a Mac) to temporarily switch to the Convert Point Tool. Releasing the [Alt] key will return you to the Pen Tool.



Direct selection

Similarly, you don't have to return to the toolbox if you're working with the Pen Tool and you need to temporarily access the Direct Selection Tool. Hold down the [Control] key ([Command] on a Mac) to switch to the Direct Selection Tool for as long as you keep the key held down.

Mastering the Freeform Pen

A well-hidden control allows you to customise the Freeform Pen to make it more useful



Tablet users

The magnetic option of the Freeform Pen Tool enables tablet users to take advantage of pressure sensitivity. This option, however, doesn't transfer control of all the magnet options to the tablet, just the Width option. Pressing harder with the pen on the tablet decreases the Width setting.

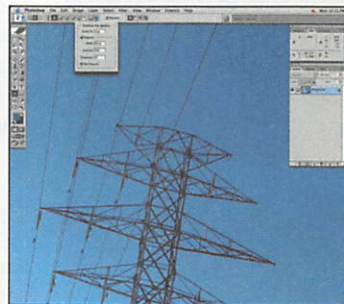
The Freeform Pen is a good tool for those of you who have traditional drawing experience, or prefer the intuitive feeling of using a pressure-sensitive tablet. The pen will add anchor points to your path as you draw it. Like all paths, the freeform path has editable points and segments, but the real key to mastering the Freeform Pen Tool is in exploring the well-hidden Curve Fit settings, which reside under the triangle button in the tool options bar. Perhaps more Photoshop users would know how flexible this tool

was if only the Curve Fit options were more obvious. You can enter a value between .5 and 10 pixels. The lower the value, the more points are added to the path, which makes it more complicated. The higher the value, the less points are added to the path, making it less complicated. It's through experimentation with these settings that individual users will find a threshold that they're comfortable with for specific purposes. However, half of the battle here is in knowing where this elusive control is hidden.

THE MAGNETIC PEN

This option forces your freeform paths to snap to defined edges

This Freeform Pen option is slightly more evident than the Curve Fit settings. A Magnetic checkbox is visible in the tool options bar that modifies the Freeform Pen Tool, making paths automatically snap to the edges of defined areas of contrast within images. Like the Freeform Pen, mastering this tool involves getting familiar with its settings, which are hidden in the same area of the tool options bar, under the triangle button. The Width option controls how far from the pointer edges are detected. Contrast lets you specify a value to determine what is considered an edge, while Frequency controls the rate at which the Pen adds points.



Many Photoshop users may not be taking full advantage of the Freeform Pen because of its hidden controls

Custom shapes

Create your own custom shapes in Illustrator or Photoshop, and save them in a preset file

It's no secret that Photoshop and Illustrator work hand in hand. Long before Photoshop had advanced path and shape-creation tools, expert users had worked out a method of importing complex Illustrator shapes into Photoshop to use as paths. The process is simple, and still relevant today. Create a shape in Illustrator, copy it, and with Illustrator still open, launch Photoshop and paste. Photoshop will prompt you to choose how to handle the vectors being pasted into it via a Paste dialog box. There are three options:

Pixels, Path or Shape Layer. When you choose Shape Layer a new shape layer is created from your Illustrator shape using the current foreground colour. To save your custom shape, first make sure that it's selected. Then choose Define Custom Shape from the Edit menu. You'll be prompted to name the shape in a dialog box. When you click OK the shape is added to your current list of presets. The same process works for shapes that are created within Photoshop, without the help of Illustrator.



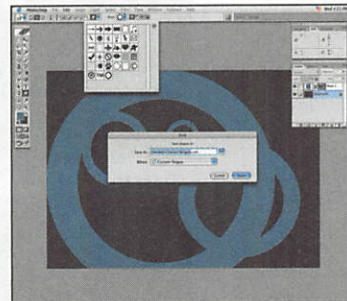
Deleting shapes

If you want a faster way to delete shapes from within the Custom Shape picker, simply right-click on the shape preset you wish to remove and choose Delete Shape from the small pop-up menu that appears.

PERSONALISED CUSTOM SHAPE LIBRARIES

Photoshop provides tools for creating your own presets library

In the Custom Shape picker you'll see the contents of the default Custom Shape preset file. Creating a preset library of your own may not seem possible, because you'll notice that whenever you define a custom shape of your own, it's added to the existing preset file. The key to creating a library lies in deleting the default preset shapes. Click on a shape in the Custom Shape picker and then choose Delete Shape from the menu. Do this with all the preset shapes until the only shapes left are your own. Then, from the Custom Shape picker menu, select Save Shapes. After naming your Custom Shapes file it's saved to a destination of your choosing.



When saving your custom shapes file, store it alongside the other preset files in the existing Custom Shapes folder

Custom Shape options

These provide extra control when introducing iterances of your custom shapes to an image



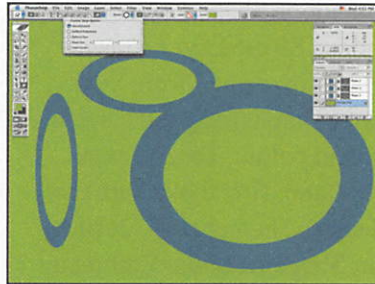
Shapes and vectors

Shapes, like paths, employ vector technology, and in doing so lend themselves to the exact same editing techniques. You can use the Direct Selection Tool to select and edit points of paths, line segments, and direction points, just as you would a path. You can also use the Convert Point Tool to edit the points within your shapes.



Turning shapes into paths

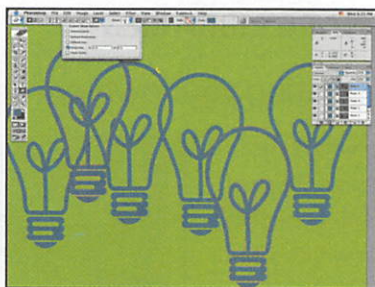
All your current paths are always displayed in the Paths palette; however, you'll see the currently selected shape in the Paths palette only while it's selected. To give a shape layer a permanent home in the Paths palette you'll need to make a path copy of it. To do this you need to grab the shape layer icon and drag it on to the 'Create new path' button at the bottom of the palette.



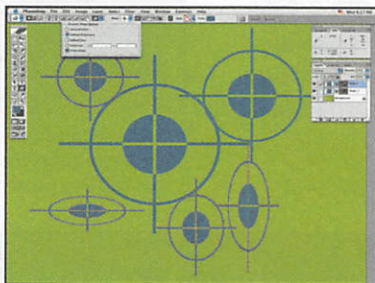
1 By default, the only setting that's enabled in the Custom Shape options is Unconstrained. This setting allows the width and height values of your shape to be set by dragging. Here are a few examples of how the same shape can appear differently, depending upon which direction you drag in, and how far you drag.



2 Enabling the Defined Proportions option ensures that every instance of the shape that you introduce to your image will adhere to the proportions in which the original shape was created. This is an excellent way to preserve the integrity of your original custom shape design. The Defined Size option will prove to be less versatile, as it creates an instance of a shape at the precise size of the original.



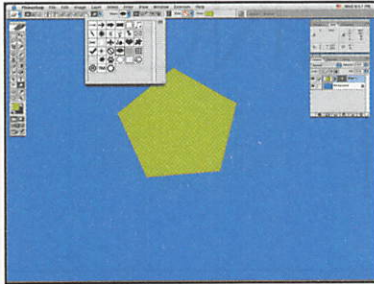
3 The Fixed Size option allows you to create a custom shape instance to the precise dimensions you enter in the height and width fields. Using this option feels a little different, as there's no need to drag after you click. The shape just pops up, at its specified size, when you click an origin point.



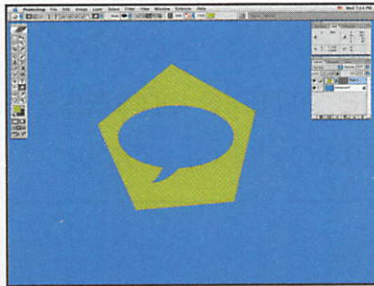
4 The From Center option renders each instance of your custom shape outwards from a central point. This feature works alongside any of the previous Custom Shape options. Holding down the [Alt/Option] key after you start dragging to create a custom shape accomplishes the same task.

Multiples of shapes

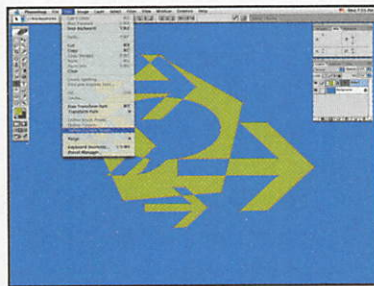
Like paths, the custom shapes you create can be made up of more than one component



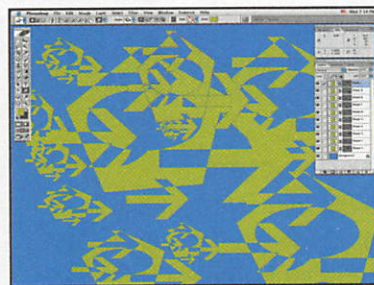
1 The Polygon Tool was used to create a five-sided polygon shape layer. The 'Create new shape layer' option was enabled in the tool options bar. With the Shape Tool still selected in the toolbox, the Custom Shape Tool option was chosen in the tool options bar and the Talk 1 shape was chosen from the presets in the Custom Shape picker.



2 In the tool options bar, the 'Subtract from path area' option was selected, and an instance of the Talk 1 custom shape was drawn over the centre of the five-sided polygon shape. This subtracted the second component from the first, while keeping them together on one shape layer.



3 Next, Arrow 7 was chosen from the Custom Shape picker and the 'Exclude overlapping shape areas' option was enabled. Several instances of the arrow shape were created, overlapping the other shape. The Path Selection Tool was used to select all of the shapes components, and this selection was added to the Custom Shape picker by choosing Edit > Define Custom Shape from the menu.



4 The Custom Shape Tool was chosen from the toolbox, and then the new preset shape we created was selected from the Custom Shape picker. The 'Create new shape layer' option was selected from the tool options bar, and a number of instances of the selected custom shape were created, generating a number of new shape layers.



Renaming shapes

In the Custom Shape picker there's a quicker way to rename shapes than selecting a shape and then choosing the Rename Shape option from the palette menu. You simply need to right-click on the desired shape from the list of presets in the Custom Shape picker. This will allow you access to a small pop-up menu from which you can select the Rename Shape option.



Transforming vectors

The Transformation tools under the Edit menu, such as Scale, Rotate and Skew, are not only for transforming pixel elements – they work with vector elements as well.

You can apply the same transformations to your shape layers or paths by first selecting them with the Path Selection Tool and then choosing a transformation from the Edit menu. You can also apply transformations to sections of your shapes or path components by selecting them first with the Direct Selection Tool.

Chapter 4

ARTISTIC TOOLS FOR WORKING WITH TEXT

In this chapter...

- ☐ Create and edit text along an existing path
- ☐ Place text inside a closed path while text and the path remain editable
- ☐ Explore the various orientation and justification options
- ☐ Discover the effects you can create by warping your text
- ☐ Turn your text into editable work paths

Tools for manipulating text have come a long way. Photoshop takes typography to a more artistic level, far exceeding the simple process of creating and editing basic blocks of copy

There are those who argue that typography has no place inside an image-editing application like Photoshop and, in a way, they're correct. When it comes to working with voluminous documents or multiple pages, flowing and editing text properly belongs much more to the realm of page layout applications.

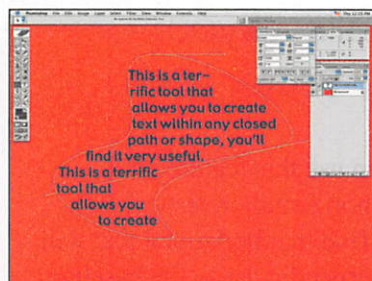
But those who insist that text doesn't belong in Photoshop are limiting themselves in two ways. First, they're seeing Photoshop as nothing more than an image-editing program, and it's obvious from the hordes of digital artists out there and publications such as *Computer Arts* that they're wrong. Photoshop is a

creative tool, used by visual artists as well as imaging specialists. The second mistake these people make is in assuming that text itself can't be used in an artistic manner. For years designers have been using typography in as many artistic ways as they have functional ways. Adobe has recognised this fact, and has responded by adding to Photoshop a number of features for working with text that are designed with creative and artistic uses in mind.

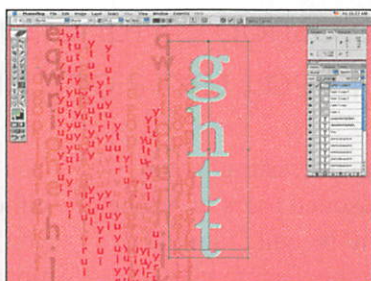
Text and vectors

Something that always made Illustrator powerful was its ability to create vector outlines from text,

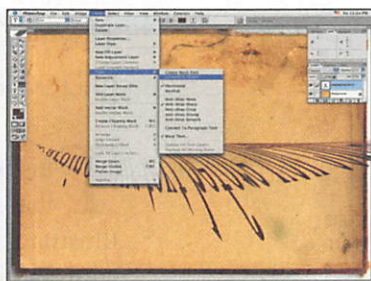
Text along a path



Page 44 Place your text inside a shape, or run it along the contours of a path



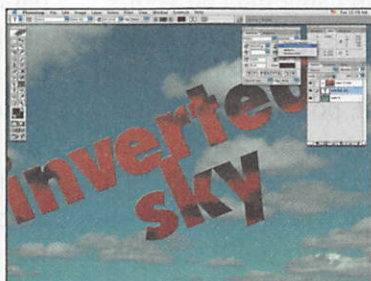
Page 45 Learn how to switch between horizontal and vertical orientation



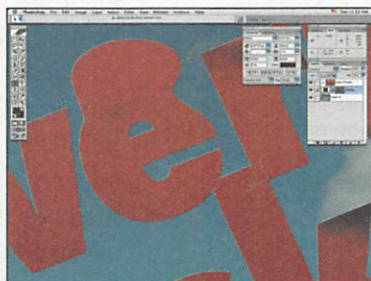
Page 46 Explore the Warp functions, and convert your text into editable paths



Page 47 Use some of the Transformation functions contained within the Edit menu



Page 47 Use type layers as clipping masks while being able to edit the text



Page 47 Convert text layers to editable paths and retain clipping mask functions

and recent versions of Photoshop now offer this long-awaited gem of a function. Not only can you create work paths from your text, you can also convert text into shape layers. And, if that's not enough vector integration for you, then you'll be happy to know that Photoshop CS offers the facility to run text along a path, or flow it inside a closed path. Every path/text combination can be edited at any point.

Other text features

Photoshop offers up a series of different warp functions for your text that will allow you to create a wide range of interesting effects.

But all the standard tools that you require for text manipulation are also present, making Photoshop useful for all those everyday editing tasks such as adjusting kerning, leading and justification. The character palette offers up a number of different anti-aliasing options for text, as well as a number of extra options such as faux italic, underline and subscript. Today, Photoshop incorporates text into your documents as layers. Not only does this offer access to all of the layer modes, effects and controls, it also means that text exists in its own right, and doesn't have to be added to existing pixel data.

Text along a path

This Photoshop CS function allows you place and edit text along any vector path



Flipping text

It's possible to flip text on a path to the other side of the path that it uses as a baseline. Choose the Path Selection Tool or the Direct Selection Tool, and position it over the type. When the cursor changes to an I-beam with an arrow beside it, click on the type and drag it to the other side of the path.

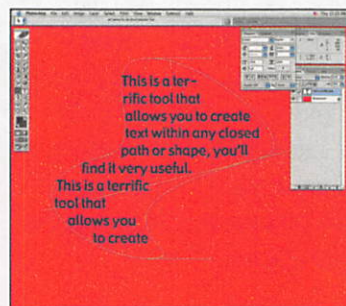
This is an interesting feature that seasoned users of Adobe Illustrator will be quite familiar with. Putting this feature into practice is as simple as creating an unclosed path using the Pen Tool, or selecting an existing path from within the Paths palette. Then select the Type Tool, position the mouse pointer so that the baseline indicator appears, and click. A blinking insertion point will appear. Go ahead and type and you'll see your new text follow along the contour of the path, using it as a baseline.

You can use this feature with either horizontal or vertical text; you'll find that horizontal text will flow perpendicular to the baseline, whereas vertical text will flow parallel to the baseline. You can highlight text with the Type Tool and use any of the functions in the tool options bar and palettes to edit it. You can edit the path using any of the standard path-editing tools, such as the Direct Selection Tool, and the text will reflow along the edited path. Text will stay connected to your path as you move it.

TEXT INSIDE A SHAPE

Text can be placed inside any closed vector shape

You can set blocks of editable text inside any closed shape. First you need to either create a closed shape using a Shape tool or the Pen Tool, or use an existing shape. Then select the Type Tool, and move the mouse pointer so that it sits inside the closed shape. You'll notice that the pointer will change into what appears to be an I-beam with a marquee around it. Now click – this creates a blinking text insertion point. All you need to do now is fill the shape with text. The text remains editable, and when you edit the shape, the text will flow accordingly. You can move the shape around as much as you want – the text will remain inside it.

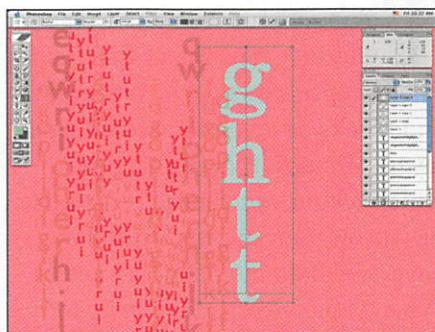


This text was originally added inside an elliptical shape, then the Direct Selection Tool was used to reshape it

Creative text options

Some interesting, but less practical, Type Tool options open up further artistic possibilities

The Vertical Type Tool can be accessed under the Type Tool menu. Entering type after clicking to place an insertion point with this tool sets the type vertically. If you have a line of horizontal text, you can change its orientation to vertical by highlighting it and then clicking the 'Change text orientation' button in the tool options bar. Also available are two orientation options for creating type masks. These tools will generate selections based on the text you enter after placing an insertion point. You can then paste



Using a Type Mask option temporarily switches to Quick Mask mode while you type, and generates a selection from your mask when you hit [Enter]

images into your selections, generate masks from them, or use any filter, paint or gradient fill.



Kerning and tracking

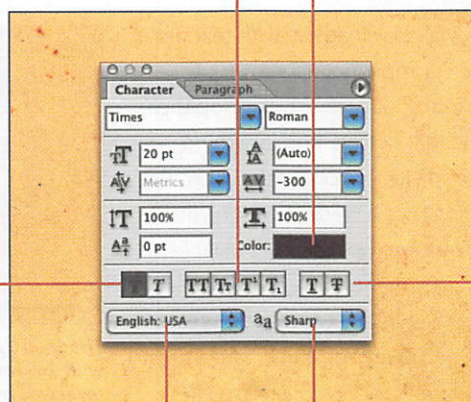
There's a quick way to alter the tracking of your text. Select the text you wish to track using the Type Tool and, while holding down the [Alt] key ([Option] on a Mac) use the left and right arrow keys to increase or decrease the tracking. The method for kerning between characters is similar; instead of highlighting text, just add a text insertion point between two characters.

CHARACTER PALETTE EXTRAS

Alter your upper and lower case text using the caps options included here, or add subscript or superscript effects to selected letters.

These options allow you to falsify text styles. If you don't have a bold or italic version of a font, for example, you can mimic it here.

This is an excellent and rather smart feature that allows you to specify a language for use with hyphenation and spelling.



Access the Color Picker to change the selected text colour. With the picker open you can also sample colours from within the image window.

Use these buttons to add an underline effect to selected characters, or to add a strike-through across their vertical centres.

You can select from four different text anti-aliasing methods here, or turn the function off completely, to control the edge sharpness of your characters.

Converting type to vectors

Increase your creative options by converting your text layers to work paths or shape layers



Converting type layers

When you convert a type layer to a shape layer, the layer itself is converted, and your type layer is replaced by a shape layer in the Layers palette. However, when you create a work path from a type layer, the work path is created in the Paths palette, and the type layer remains intact in the Layers palette until you discard it.

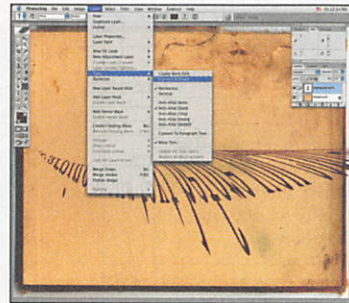
Taking its cue from the Create Outlines function in Illustrator, Photoshop allows you to convert lines and blocks of text into vector shape layers or paths. It doesn't matter which option you choose – each one has its own advantages – but they have one thing in common: vectors. When you convert a type layer to vectors you create something that's resolution-independent, and allows you to take advantage of all of the vector-editing tools that Photoshop has to offer. Perhaps the main reason why users turn their type layers into

paths or shape layers is to alter the shape of existing letterforms by using the Direct Selection Tool or the Convert Point Tool. These two tools offer limitless possibilities when it comes to altering letterforms. When your characters are converted to vectors you can take advantage of all the options for combining them with other path or shape components. You can create fantastic compound paths using the path area options, or interesting shape layers using the add, subtract, intersect and exclude options.

START WITH A WARP

Twist and bend your type layers by using the warp functions

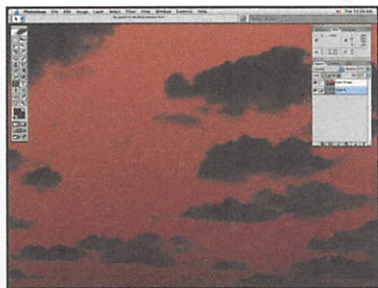
The possibilities of what you can do creatively with text grow exponentially when you start combining different tools. Working with type enables individual users to develop their own style by creating results that deviate from anything resembling a preset. One good way of doing this, when converting type to vectors, is to use a Warp effect on your text to alter it beforehand. The Warp options are available in the tool options bar or the Layer menu, and can be applied to individual type layers. There are many warp options to explore, including Arc, Wave and Twist. You can create a great starting point for you vector conversion with a warp effect.



The Shell Upper warp effect was used with extreme settings before this type layer was converted to a shape layer

Getting creative with type

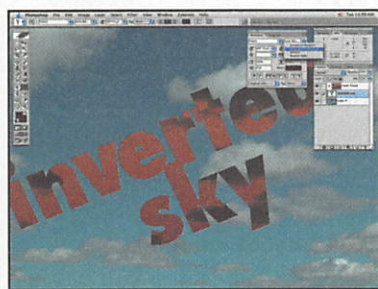
There are uses for Photoshop's Type tools other than setting basic lines and blocks of copy



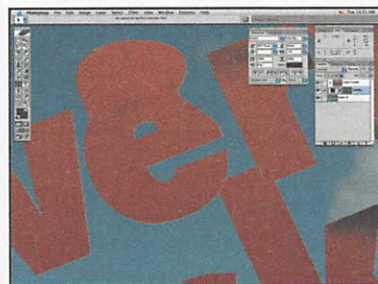
1 The layer containing the blue sky and clouds was duplicated in the Layers palette by choosing Duplicate layer from the Layers palette menu. Then Image > Adjustments > Invert was chosen from the menu to invert the image on the duplicate layer. The original layer was then selected in the Layers palette, and the visibility of the duplicate was disabled.



2 Next the Type Tool was used to create a new type layer. The foreground colour was chosen from the Color Picker, and the words 'inverted sky' were entered on the layer. Edit > Free Transform was selected from the menu. The bounding box was rotated and resized, and then the transformation was applied to the type layer.



3 The duplicate sky layer was then selected in the Layers palette, and the visibility of the layer was enabled. Then Layer > Create Clipping mask was chosen from the menu, creating a clipping mask from the underlying type layer. Editing the layer edits the clipping mask, and the font of the type layer was changed in the Character palette.



4 With the type layer selected, Layer > Type > Convert to Shape was chosen from the menu, converting the type layer. Then the Direct Selection Tool was used to alter the points and curves of the shape layer. Because this layer defines the clipping mask of the above layer, the results of the vector manipulations are immediately visible.



Transformations

Type layers, just like pixel-based layer content or vector-based shapes and paths, are editable. Many of the functions under the Edit menu apply to type layers, including Photoshop's excellent transformation functions. Feel free to rotate, scale, and skew, but if you want to use the distort or perspective functions then you must convert your text to a path, shape layer or pixels first.



Rasterize

Under the Rasterize section of the Layer menu you'll find the Type option. Using the Rasterize function on a type layer will convert it to pixels, and allow you to access image-editing functions that were unavailable when your layer was in text format. The caveat is that once you rasterize a type layer you can no longer edit the text.

Chapter 5

SAMPLING AND REPLACING COLOURS

In this chapter...

- ☐ *Display and edit up to four different colour samplers*
- ☐ *Change the display to show or hide your colour samplers in the image window*
- ☐ *Understand the Sampling and Limits functions of the Color Replacement Tool*
- ☐ *Get more from the Color Replacement Tool by exploring its various modes*

Everything you need to sample and replace colours in your images can be found in the toolbox. The Eyedropper, Color Replacement, and Color Sampler tools offer a host of options

It's next to impossible to think of Photoshop without thinking of colour. Whether you're an illustrator, digital photographer, imaging professional, digital art enthusiast or web designer, colour is an integral part of your daily workflow. There's a vast range of powerful tools within Photoshop that allow you to alter and manage colour within your files.

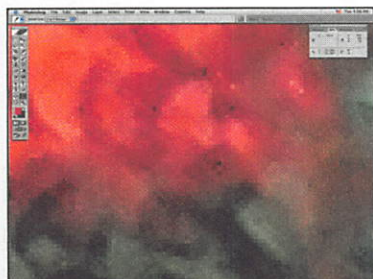
The Eyedropper

This is one of the most important colour tools, and it seems simple enough on the surface, but the Eyedropper is incredibly versatile when you start to really explore its potential. Many people think of the

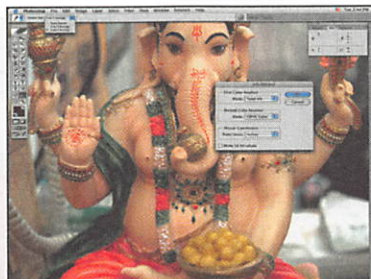
Eyedropper as a tool that allows you to click on an area of your image and specify that colour as the current foreground colour. Sampling colour in this way is certainly an important aspect of working within Photoshop, but it's only the tip of the iceberg when you look at the other functions this tool can offer. When you begin to explore the different sampling ranges, and features such as copying colours as hexadecimal values, you'll begin to see just what this indispensable tool is capable of.

The Color Sampler

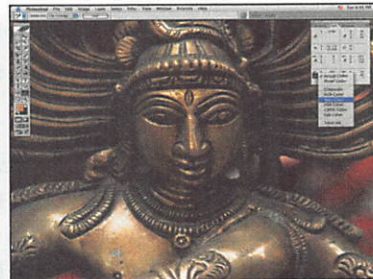
Nested neatly within the Eyedropper Tool menu in the toolbox is the



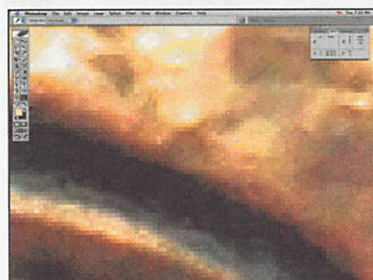
Page 50 See the differences between sampling using a range or a single pixel



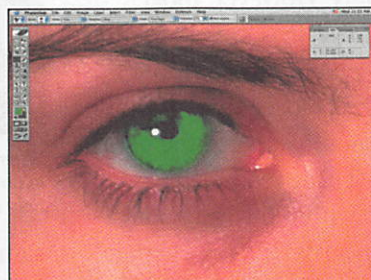
Page 50 Have a look inside the Info palette and discover its various options



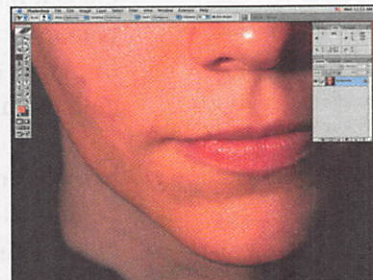
Page 51 Use colour samplers and alter the colour space shown in the Info palette



Page 52 You don't always select colours using the Point Sample method



Page 54 The Color Replacement Tool's Find Edges option preserves edge detail



Page 55 Use various Color Replacement Tool modes to achieve subtle results

Color Sampler Tool. This option takes the Eyedropper Tool to another level. The Color Sampler combines the technology offered up by the Eyedropper Tool with the colour information that's displayed in the Info palette to create a unique tool that allows you to display colour information for more than one location, based on areas in the image (colour samplers) that are defined by you. These areas, and the relevant information, remain constant and inside your image until you delete, alter or edit them. They can also remain hidden inside your image until you need them. When you're doing work that alters colour in

portions of your images, it can often be handy to have a number of colour reference points specified, and at your disposal.

The Color Replacement Tool

You'll need to look under the Healing Brush Tool pull-down menu in the toolbox to find this little gem of a tool. In its most basic form this is an excellent tool for replacing specific areas of colour within your images. A combination of Mode, Sampling, Limits and Tolerance options make this tool as complex as you want it to be, offering up something for hobbyists and professionals alike.

The Eyedropper Tool

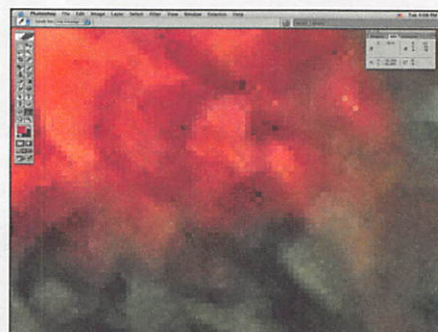
A closer look reveals that this tool is capable of more than sampling the colour of a single pixel



Hexadecimal values

For those of you doing work for the web, there's an excellent way to see the hexadecimal values for your colours. Select **Palette Options** from the **Info palette fly-out menu** and choose **Web Color** from either the **First Color** or **Second Color** readouts. As you move the Eyedropper around the image the hexadecimal values will be displayed in the **Info palette**.

In the Eyedropper Tool options you'll see a pull-down menu called **Sample Size**. The default setting is **Point Sample** – the colour sampled is from the pixel that is clicked on only. However, most colours your eye sees are made up of ranges of pixels, so to sample a colour which is closer to what you're seeing you should explore the other two options. These read the average colour value within the range of pixels you specify. '3 by 3 Average' uses a 3-pixel radius, and '5 by 5 Average' uses a 5-pixel radius. Your



When you sample a colour using a range, zoom in and have a look at the pixels and you'll notice how different a point sample selection would be

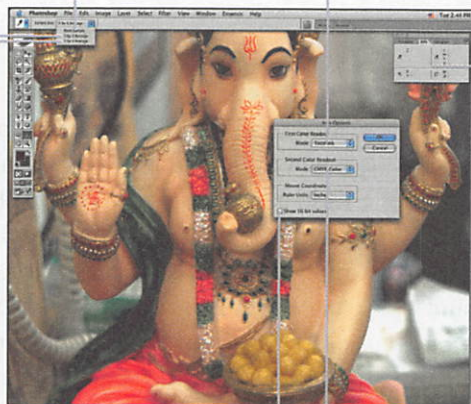
sampled colour is then added to the toolbox as the foreground colour, and displayed in the **Info palette**.

THE EYEDROPPER AND INFO PALETTE

Using the **Point Sample** option is ideal for situations when you require a colour sample from a single pixel.

The '3 by 3' or '5 by 5' pixel settings will generate a colour which is averaged from an area of pixels wherever you click.

Enabling the **16-bit** option lets you see 16-bit colour information when working with images of this bit depth (Photoshop CS only).



There are two different colour readout areas in the **Info palette** with numerous options for displaying colour information based on where you click with the Eyedropper.

Both colour readouts are displayed in the **Info palette**. You can change your readout options by accessing the **Info options** in the **Info palette menu**.

Having two readouts is handy when you want to view two different things, such as **total ink** and **individual channel ink values**, at the same time.

The Color Sampler Tool

Nested with the Eyedropper Tool is this useful tool for preserving colour reference points

For those of you who do any sort of colour balancing or colour matching within your images it's strongly recommended that you have a look at the Color Sampler Tool. This allows you place up to four points, called colour samplers, within your image file. When you select the Color Sampler Tool and click in your image window a visible point with a number beside it will be added to your image. Also, a corresponding numbered colour formula will be added to the Info palette. This is excellent for having

a continuously-displayed colour formula to match to when colour balancing. You can choose how the points sample colour in the tool options bar. As with the Eyedropper you can choose a point sample, '3 by 3' or '5 by 5' sampling. Clicking on the Clear button erases any samplers from your image. You can move sampler points around the image by holding down the [Control] key ([Command] on a Mac) and clicking and dragging. You can delete points by holding down the [Alt/Option] key and clicking on them.



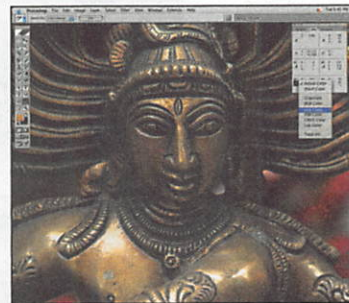
Pop-up menu

There's a quicker way to access some of the sampler options than visiting the tool options bar or Info palette. If you right-click on a colour sampler while using the Color Sampler Tool you'll see a pop-up window that allows you to choose colour space and also delete that colour sampler.

COLOUR SAMPLER VIEW OPTIONS

Hide or alter the display of your colour samplers

Like other Photoshop elements that are visible but aren't part of the image, such as guides or marquees, colour samplers can be hidden yet remain embedded in your file for use later. Go to the main menu and select View > Extras. The visibility of the colour samplers is indicated by a checkmark. Selecting it will remove the checkmark and hide the samplers. Selecting it again will add the checkmark and return the samplers to view. You can view or hide sampler information in the Info palette via the Color Samplers option in the palette menu, and you can change the colour space in which a sampler displays values by clicking on its icon in the Info palette.



After you click on a specific sampler icon you can select any of the available colour spaces for your display option

Sampling colour

Keep an eye on things in the Info palette while using the Eyedropper and colour samplers



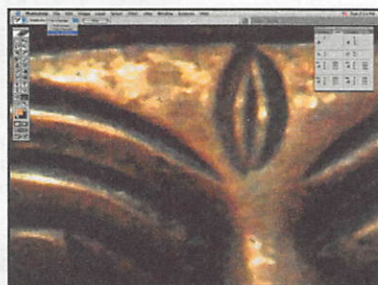
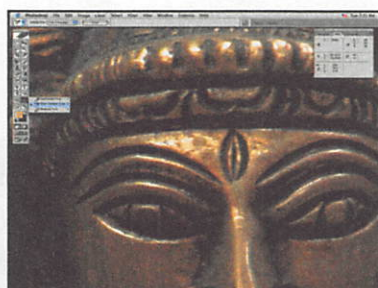
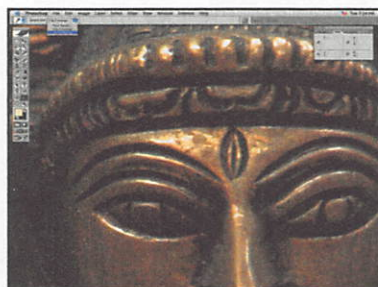
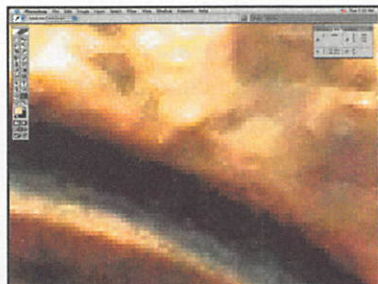
Deleting samplers

You'll notice that as you delete individual samplers from the workspace they disappear from the Info palette as well. However, if you delete out of sequence the remaining samplers will be renumbered sequentially. For instance, if you delete the third of four samplers, the fourth sampler will now appear as your third sampler, allowing any newly-created sampler to be added as the fourth.



Background colour

When you sample a colour using the Eyedropper Tool, that colour is automatically added to the toolbox as the foreground colour, so if you wish to use it as a background colour you'll have to click on the arrow icon in the toolbox to switch the colours. However, if you hold down the [Alt/Option] key while you sample a colour it will be added as the background colour instead.



1 The default setting for the Eyedropper Tool is Point Sample, so sometimes the area of colour clicked on in your image doesn't look right as the foreground colour. If you zoom in very close you'll see that the Eyedropper picked up the colour from a single pixel, not a range of pixels. The colour you see when you zoom out is created by a group of slightly differing pixels.

2 Choosing one of the other options from the Sample Size pull-down menu bases the colour sample on an average of the area that you click on – the size of the area used for the average colour varies depending upon which option you use. The resulting colour sample is used as the foreground colour.

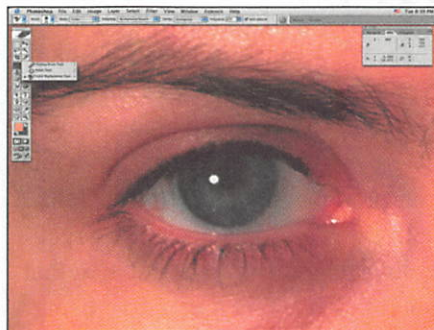
3 Clicking and holding on the Eyedropper Tool in the toolbox reveals the Color Sampler Tool. Clicking on the image with the Color Sampler Tool adds a colour sampler to the image window. Once a colour sampler is added you'll notice that the Info palette expands to show the new colour sampler info.

4 A sampler can be moved around by clicking and dragging it while holding down the [Control] key ([Command] on a Mac). You'll notice that the info for a moved sampler updates in the Info palette once you've moved it. You can change the sample area radius for any sampler at any point by selecting another option from the Sample Size pull-down menu in the tool options bar.

The Colour Replacement Tool

This great tool enables you to replace specific colours by simply clicking and dragging

The Color Replacement Tool makes it easy for you to replace areas of specific colour in images without creating complex selections or masks. It enables you to change the colour of areas while preserving details, highlights, and shadows. It's a very smart tool that's capable of analysing the underlying image as you paint with it, and it offers enough variety so the results don't always look the same. It employs Mode and Tolerance options that will be familiar from other tools. However, the two main features that



The Color Replacement Tool can be found in the toolbox, sharing space with other 'intelligent' tools like the Healing Brush and Patch tools

you need to get your head around to get the most out of this tool are the Sampling and Limits options.



Colour modes

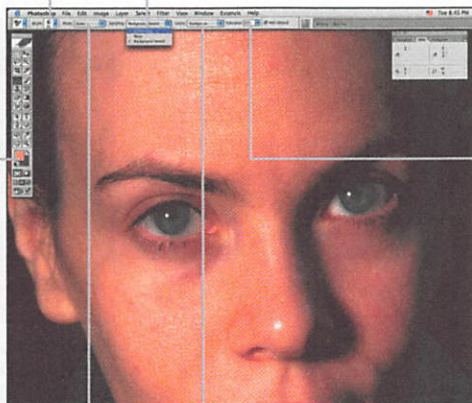
Although it's an extremely intelligent tool, the Color Replacement Tool doesn't support every single colour mode possible. It will work in the two modes that most users work in – RGB and CMYK. However, it doesn't work in Bitmap, Indexed or Multichannel modes.

COLOR REPLACEMENT TOOL OPTIONS

Adjust the angle, diameter, roundness, hardness and spacing of your brush tip. There are also options to control size and tolerance via pressure sensitivity.

The foreground colour is used to replace the target colour. The background colour is most important when using the Background Swatch sampling method.

The various modes provided, as for other paint tools and layers, control how the replacement colour is applied to the existing pixel data.



The Sampling options determine the source for this tool. There are three to choose from, and each will produce very different results.

The Tolerance function works exactly as it does with the Magic Wand Tool or the Paint Bucket. Anti-aliasing softens the edges, as you've already seen.

The three Limits options allow you to define the limits of where the replacement colour will be introduced in relation to the sampled colour in your brush area.

Sampling options

Understanding these options is essential to get the best from the Color Replacement Tool



Photoshop CS only

Many Photoshop users comment that the Color Replacement Tool is an offshoot of the Healing Brush, which was introduced in version seven. However, the Color Replacement Tool is a Photoshop CS tool only, so users of Photoshop 7 or earlier will need to upgrade to Photoshop CS in order to explore its capabilities.

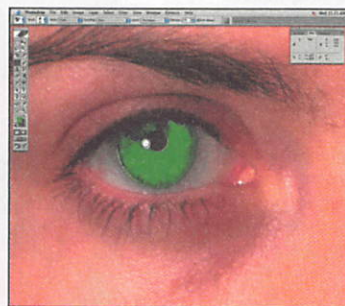
The Sampling options allow you to specify how the Color Replacement Tool will determine the source of targeted areas to alter. There are three options, all of which can produce quite different results. The Once option selects the target colour range from the first area that you click on. When you drag using this option the colours are replaced in the areas defined by your initial click. A new colour is sampled each time you click. The Continuous option samples as you go, so the results can be constantly changing.

Ranges of colour directly beneath the tool's crosshairs are targeted. This is an option that can get out of control quite quickly, so start out using low tolerance settings and work on areas of high contrast to develop a feeling for this sampling method. Selecting the Background Swatch option limits the targeted areas to only ranges of colour that contain the current background colour. Using a low tolerance setting with this sampling method is the easiest way to constrain the effects of this tool.

UNDERSTANDING THE LIMITS OPTIONS

There are three ways to limit where the replacement colour goes

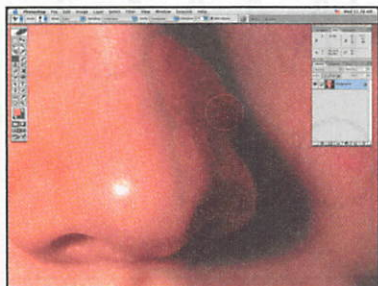
The Limits options allow you to control where your new foreground colour is applied, based upon your brush area and your sampled colour. The Discontiguous option affects all the areas directly underneath your brush that are within your sampled colour range. The Contiguous option affects only the areas of the sampled colour range directly underneath the crosshairs in the centre of your brush. So paying attention to the crosshairs, and not just the brush shape, is important. The Find Edges option allows you to replace your sampled colour in connected areas while preserving sharp edge shapes.



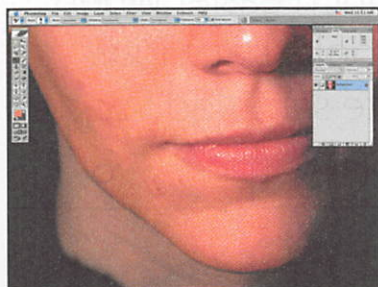
The Find Edges option allows you to preserve edge detail, such as where the iris meets the rest of the eye here

Color Replacement modes

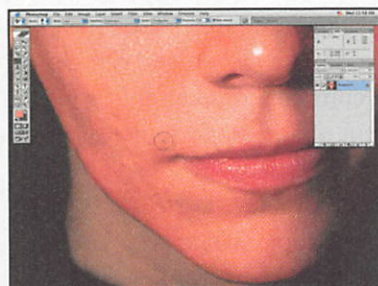
Subtler colour replacement requires image analysis, and a familiarity with blending modes



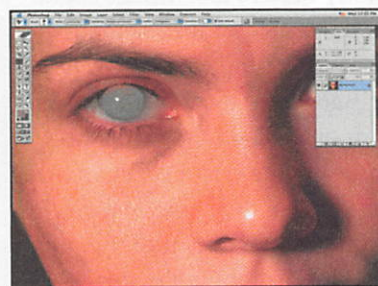
1 Retouching a face offers good examples of how you can employ different modes for the Color Replacement Tool. Here, there's a bluish cast to the right of the nose. Using the Color blending mode is ideal for this location because the dark and light values are suitable, as is the saturation – it's just the colour that's wrong. Sampling more than one foreground colour can help achieve a convincing result.



2 The Saturation mode is good for evening-out the skin tones overall. For saturated areas such as around the eyes, choose a less-saturated foreground colour from the cheek or forehead. Or, to add saturation to the forehead and cheeks, choose a more-saturated foreground colour from around the eyes or lips. Be careful with this effect, as the results can be dramatic.



3 The Hue mode leaves the luminescence and saturation of the underlying colours intact while changing only the hue. This is a good mode to use with a little restraint; especially for going over areas whose colour you've just replaced using the Saturation mode.



4 The Luminosity mode tends to produce an extreme result using the luminance of the foreground colour. This isn't such a good mode to use for subtle jobs like evening-out the colours of a face. However, if you're not afraid of extreme results it can be effective, as in this case, where we've added an alien glow to our subject's eye.



Building up modes

You can use the Color Replacement Tool effectively for images like this face if you aren't afraid to go over areas more than once. There may be times when replacing an area using Color mode works well, but leaves the resulting area too saturated. Then you may want to use a less-saturated foreground colour, and replace the oversaturated colour.



Layers

There's no Use All Layers option for the Color Replacement Tool in the current version of Photoshop, so don't expect it to affect underlying imagery or work properly on areas of transparency. You can directly affect pixel-based layer content, but the tool doesn't work with shape layers either.

Chapter 6

GOING FURTHER WITH THE IMAGE REPAIR TOOLS

In this chapter...

- ☐ Experiment with blending modes to achieve interesting cloning effects
- ☐ Learn when to heal and when to patch
- ☐ Use the Healing Brush as a traditional shading tool
- ☐ Get better results by combining your tools with layer options
- ☐ Understand source, destination and alignment options

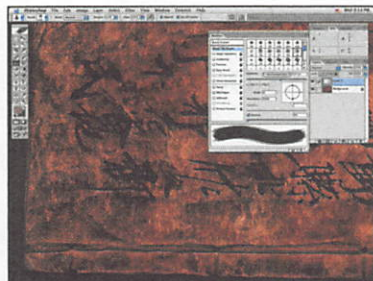
Altering images becomes much easier when you realise the potential of tools that allow you to paint with or duplicate sampled image data, and blend it in seamlessly

Most Photoshop users will know that the Clone Stamp Tool allows you to sample an area of an image and then 'paint' that sampled area into a different part of the image. But the Clone Stamp also lends itself to innovation when you start to think outside the box, and explore the possibilities of options as simple as trying different blending modes. Standard cloning results can also be improved when you delve into the tool options a little deeper, and develop an understanding of the alignment functions, or even get into the habit of using multiple origin points instead of just one. The Use All

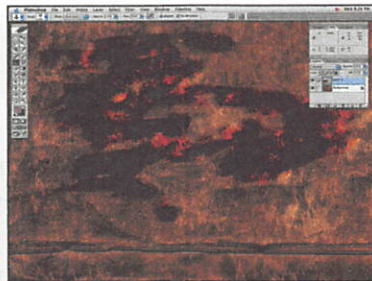
Layers option will allow you take advantage of, and make creative use of, what the Layers palette offers you in combination with this excellent image repair tool.

Healing Brush and Patch Tool

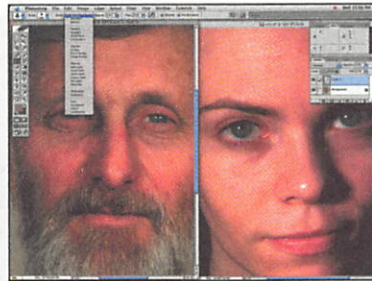
Both these tools will appeal to users of the Clone Stamp Tool, because essentially they're also image repair tools. The thing that makes them stand out is that they seem to have an intelligence of their own. Both tools not only blend the sampled imagery with the destination areas of your images, they also possess the ability to match texture, lighting and shading of sampled pixels to



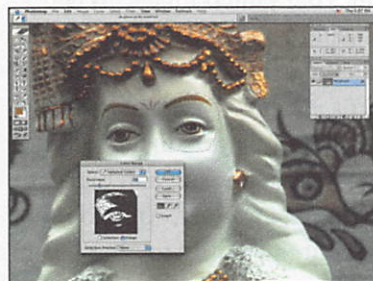
Page 59 Explore the custom brush settings when using the Clone Stamp



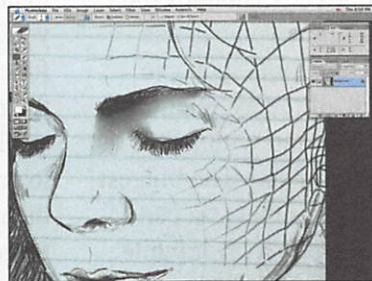
Page 59 Try out different blending modes with the Clone Stamp



Page 60 Use the Clone Stamp across two different image files



Page 63 Combine the Patch Tool with the multitude of selection options



Page 65 Use the Healing Brush to simulate illustrative shading techniques



Page 67 Use multiple files and layers for stunning results with the Healing Brush

the source pixels. It's important to distinguish when it's best to use each of these tools, as the Healing Brush acts as a paint tool, while the Patch Tool works on selections.

Explore and experiment

As with all tools in Photoshop, you can get more from these two tools if you look deeper into their options and go beyond their obvious uses. There will be occasions when you're using the Patch Tool that you'll need to use a particular Source or Destination setting to get the results you want. Similarly, there will be occasions when you're using the Healing Brush when employing the

Use All Layers option will open up the door to creative possibilities that simply can't be achieved when you're working within a single layer. Don't be afraid to approach tools with another use in mind; for example, the Healing Brush makes an excellent shading tool for blending highlights and shadows in traditional pencil drawings. In this chapter we'll reveal some things that will hopefully steer you in a direction that's very different to the one you usually head in when reaching for these tools. Yet at the same time we'll also help you use them more effectively when it comes to day-to-day image repair tasks.

Cloning and layers

The Clone Stamp's Use All Layers function opens the door to almost endless possibilities



Brush options

The Clone Stamp Tool falls under the category of paint tool. As such, this entitles the Clone Stamp to all of the options available within the Brushes palette. You can use many of these features, such as custom brush tips, jitter, texture, scattering, shape and dynamics to achieve interesting cloning effects.

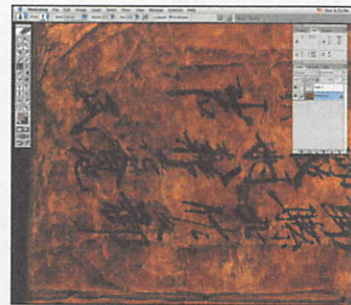
When you enable the Clone Stamp's Use All Layers option your origin point will sample data from all of the visible layers contained in your current file. This function greatly expands the possibilities of how you can use the Clone Stamp Tool – you can integrate many of the excellent features that working with layers makes available to you. The biggest advantage of this is that you can carry out cloning on a layer while leaving your original image untouched. Then, when you're happy

with what you've done on the new layer, you can create another layer and continue cloning on the second layer, and so on, until you have a nice stack of layers that work together to create your edited image. When you're using layers you get all of the functionality that goes along with them. For instance, you can take a stack of cloning layers that combine to create a certain result and organise them within a layer set. And don't forget about the ability to alter layer opacity, or to mask your layers and your layer sets.

THE ALIGNED OPTION

To align or not to align – that is the question

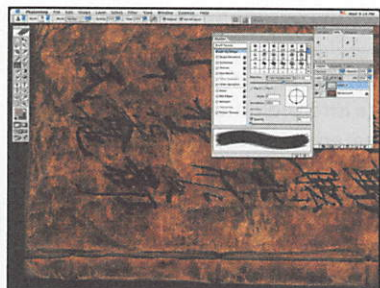
You can enable or disable the Aligned feature in the tool options bar at any point. It only does one thing, and that's control how the tool behaves after you've selected an origin point. The aligned function preserves the alignment or distance between the origin point and the Clone Stamp brush. Even when you release the mouse button and start cloning again, this relationship remains constant. When you have the Aligned option unchecked, the original origin point itself is used when you start cloning again, and the distance or alignment are ignored. This remains constant until you choose another origin point.



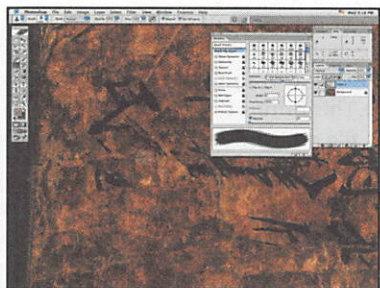
Here the cloning work is carried out on a layer, removing the characters yet leaving the original image untouched

Beyond basic cloning

Your Clone Stamp results get interesting when you start experimenting with other features



1 First, a new layer was created to preserve the underlying image. Then the Clone Stamp was selected. And, just to make things interesting, in the Brushes palette the Spatter 59 pixels preset was chosen and the size of the brush tip was increased. The Use All Layers and Aligned options were enabled in the tool options bar.



2 The [Alt/Option] key was held down while we clicked on an area of paper texture to define it as the origin point. Then the Clone Stamp was used with the same brush set-up to begin painting over areas of the characters by clicking and dragging. This not only cloned over the characters, but created a brushed pattern on the new layer.



3 This process was continued, frequently defining new origin points to add interest, until all of the visible characters were covered by the contents of the new layer. Next, the blending mode in the tool options bar was switched to Color Burn, then a series of strokes were created by clicking and dragging.



4 The resulting effect was a little too drastic, so the blending mode of the tool was returned to Normal. Then, in the Brushes palette, the Soft Round 300 preset was selected. The tool's Opacity was reduced in the tool options bar and, using origin points from outside the affected area, the paper texture was cloned over the brush strokes on the same layer to blend everything together.



Blending modes

If you deviate from the default Normal blending mode when working with the Clone Stamp, be aware that other modes only work on pixels, and not transparency. If you have pixel-based content on any given layer, and then go beyond the pixel area into the transparency area while using a different blending mode, you'll only see the result over areas of existing content. Nothing will show up on transparent areas.



Layer modes

You don't have to limit your Clone Stamp Tool experimentation to the blending mode options within the tool itself. Don't forget that when you work on layers you can have some fun with the layer blending mode options. Try using duplicate layers with varying opacities and blending modes to create interesting effects.

Beyond basic cloning continued

You can create weird and wonderful images by combining more than one file and using layers



File to file

If you plan on defining an origin point in one open file, and using the Clone Stamp to add sampled imagery to another open file, there are a couple of things you need to be aware of. Firstly, the files must be of the same bit depth. Secondly, they must share the same colour mode. If this isn't the case the transfer won't work, and Photoshop will display a warning telling you why.

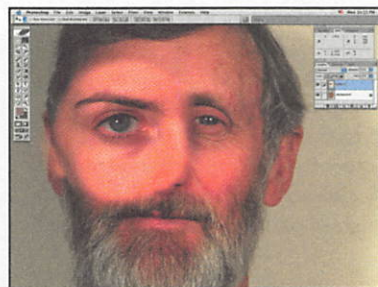


Adjustment layers overhead

When a colour adjustment layer is visible in the file residing above the layer you're working on, strange things occur. The Clone Stamp samples image data from all visible layers including adjustment layers, so the pixel content you're cloning has already been adjusted by the layer and is being adjusted again. To remedy this problem, temporarily hide the visibility of any adjustment layers that reside above the layer you're working on while cloning.



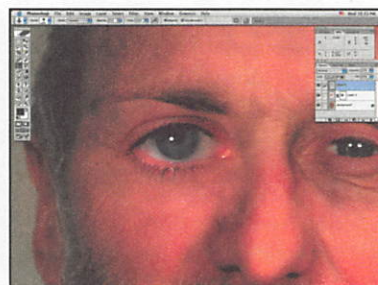
1 It's possible to use the Clone Stamp Tool between files. You can define an origin point in one open file and paint the sampled data into the other file. Here, a new layer was created in the active file on the left. The Use All Layers option was enabled, and the blending mode was set to Normal. An origin point was added in the centre of the woman's eye in the file on the right.



2 Next, on the new layer in the active file, the man's left eye was painted over by clicking and dragging with the Clone Stamp. This brings the woman's eye over into the file on the new layer. This is all that's required from the woman image, so it's hidden from view. The Move Tool was used to reposition the contents of the layer.



3 A layer mask was added to the layer by clicking on the 'Add layer mask' button at the bottom of the Layers palette. Then the Brush Tool was selected with an Opacity setting of 50 and a Normal blending mode. Using a black foreground colour, the layer edges were painted over within the mask, to soften them and blend the image into the underlying layer.

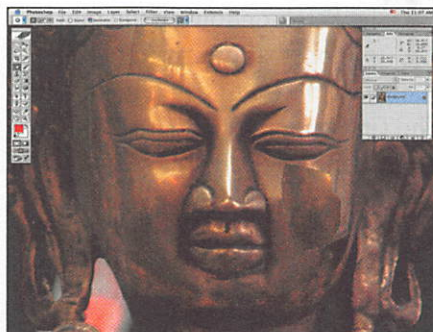


4 A new layer was created, and the Clone Stamp was selected. A soft, round brush tip was chosen and the Use All Layers option was enabled. Using a low Opacity setting of 25% combined with a number of different origin points, the eye was blended even more effectively by clicking and dragging with the Clone Stamp on this new layer.

Heal or patch?

Both these tools are very useful in their own way, but each lends itself to different tasks

These two tools take their cue from the Clone Stamp, yet take things a little further. Where each excels is in how they meld sampled image data with source data. They offer the ability to match texture, lighting and shading to blend the repaired pixels seamlessly into the image. The key to using these tools effectively is to know which is appropriate for your specific needs. The Patch Tool is selection-based, and is therefore appropriate for when you want to repair a section of an image that you can easily isolate



Be prepared to wait a second or two when working with the Healing Brush or the Patch tools, as Photoshop has a lot to think about

with a selection. The Healing Brush is appropriate for any instance when a painting technique is more suitable.



Patterns

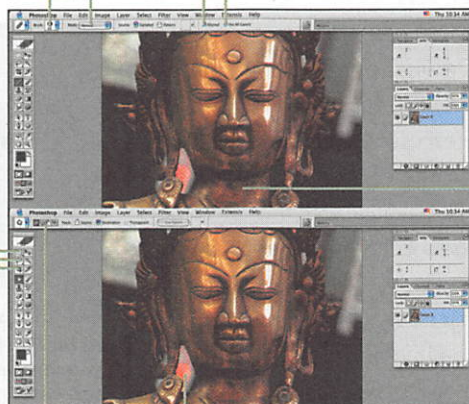
The Patch Tool and the Healing Brush Tool offer you the ability to use patterns, instead of defining a source or sampled area. You get a fairly obvious result when you use this method, but the seamless blending that these two tools achieve makes for a more interesting result than you would get from using the Pattern Stamp Tool.

SELECTING VERSUS PAINTING

Adhering to many of the same rules as other paint tools, the Healing Brush also enjoys some of the benefits, such as brush control and blending modes.

You can create a selection beforehand using any of the Photoshop selection tools, then use the Patch Tool within the selection.

Because the Patch Tool is capable of defining selection borders you're provided with the Add/Subtract/Intersect/Exclude selection tool options.



Select the Healing Brush if you want to take advantage of the Use All Layers function; the Patch Tool doesn't offer this feature.

Cleaning up blemishes on the neck here is an ideal task for the Healing Brush, as you don't really need to define any selection borders.

Large areas that are easily defined with selection borders lend themselves well to being repaired quickly with the Patch Tool.

Source versus Destination

Understanding the difference between these functions is vital to mastering the Patch Tool



Patch catch

Forget about patching between files – it simply doesn't work. Depending on whether you're using the Source or the Destination method, you'll either drag your selection contents into a file as a new layer or simply drag the selection border, without its contents, from file to file.

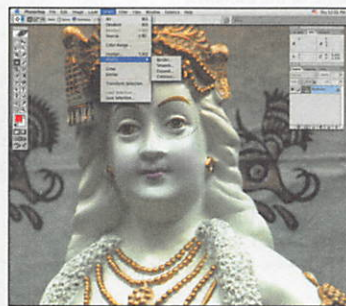
The Patch options in the tool options bar offer you two distinct methods of using this tool. The first option, the Source option, keeps your selected area's position in the image, but changes the contents within the selection border. When using the Source function, draw a selection around the area you wish to affect, then click and drag inside the selection border. You'll notice that the selection contents change to display the area beneath the cursor. Release the mouse button to replace the contents of the selection.

The Destination option works a little differently. When you create a selection border using the Destination option you're using the contents of the selection to repair another area of your image, basically dragging a patch. When using the Destination method, first draw the selection border around a section that you want use as a patch, then click and drag the selection contents to the area you want to repair. When you release the mouse button the contents of the selection are blended into the new area.

SELECTION OPTIONS

You can use some effective selection options with the Patch Tool

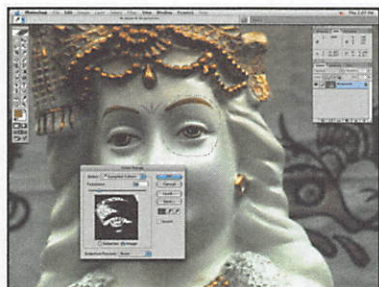
The Patch Tool allows you to define selections in a similar manner to the Lasso Tool. It really is part selection tool, part clone tool. And because it's part selection tool, it allows you to make use of some of the excellent functions available in the Select menu and the toolbox. You can achieve some stunning results when you get creative with the Patch Tool's selection borders. The powerful Color Range Tool is at your disposal, as is the Magic Wand for those intricate selection borders. The Feather option is a very useful tool for creating soft-edged patches, while the Transform Selection Tool is good for altering the shape of your selection border only.



As the Patch Tool is part selection tool, you can use the Select menu functions to create or manipulate your borders

Beyond basic patching

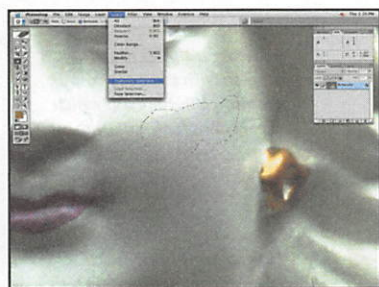
Used with the selection and Source/Destination options, the Patch Tool is even more powerful



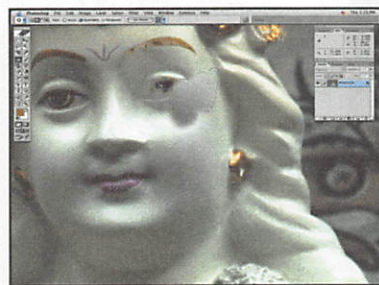
1 First, the Patch Tool is used to create a selection border; it works in almost exactly the same way as the Lasso Tool. Then, once the area is defined, the Color Range Tool is chosen from the Select menu. This is used to refine the selected area so that it only contains very specific colour data.



2 Next, with the Source option enabled, the Patch Tool is used to click and drag within the selection border and move it to another part of the statue's face. The contents of the selection change to reflect the area under the cursor. Once the mouse button is released, the selected area is patched. The selection remains active until it's deselected.



3 Now the Patch mode is switched to Destination. The Patch Tool is used to draw a closed selection around an area on the statue's cheek. Then the 'Add to selection' option is enabled, and a second selection border is drawn and added to the existing one, which it touches. Then, to adjust the size of the selection border only, Transform Selection was chosen from the Select menu.



4 The selection border was increased in size vertically using the bounding box handles, and the [Enter] key was hit to apply the transformation. Then Feather was chosen from the Select menu and a radius of 10 was entered. Now that the Patch selection is adjusted and feathered it can be dragged to another part of the image and used as a patch.



Hiding selection marquee

When you use the Patch Tool to define an area with a selection border you'll see the 'marching ants' marquee appear on the screen. You can hide the marquee by unchecking View > Show > Selection Edges from the menu, or for a quicker result just press [Control]+[H] ([Command]+[H] on a Mac).



Combining tools

You can combine the Patch Tool with other selection tools to make selections. For instance, if you draw a square selection with the Rectangular Marquee Tool, you can then select the Patch Tool and, with the selection still active, you can alter it using the Patch Tool and the Add/Subtract/Intersect/Exclude functions in the tool options bar.

Healing Brush blending modes

A different blending mode setting can make a world of difference by creating subtle results

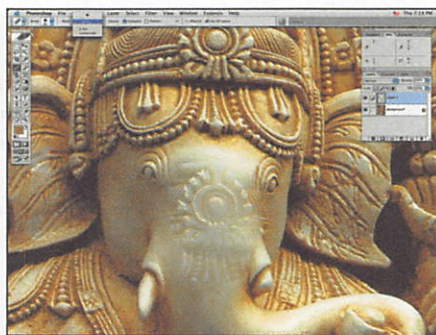


Preventing bleeding

The Healing Brush, because of how it acts on pixels to seamlessly blend areas together, bleeds brush strokes into other pixels. There may be occasions where you want precise control over the bleeding of your strokes. In such cases it's a good idea to create a precise selection and use the Healing Brush inside it; this will constrain any healing effects to within the selection border.

For repairs, the Normal blending mode is most frequently used.

Another option, directly beneath Normal, is Replace. This is a good alternative that allows you to preserve noise, film grain and texture at the edges of your brush stroke. Replace is handy for a believable result when working with images scanned from grainy film or captured at a high ISO setting on your digital camera. There are six other blending modes: Multiply, Screen, Darken, Lighten, Color, and Luminosity. Darken and Multiply



The detail on the face in this image was added using the Screen blending mode, and then a second pass was made using Lighten mode

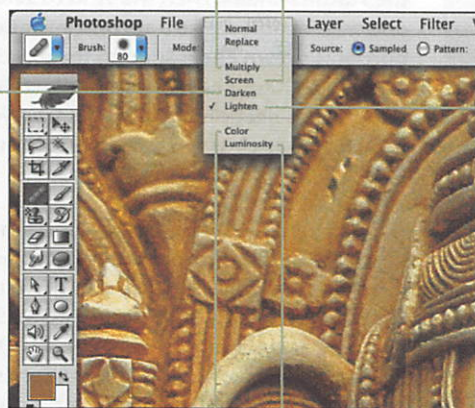
can assist in adding shade and shadow, while Screen or Lighten can help create the illusion of highlights.

CREATIVE BLENDING MODES

Multiply multiplies colour information by the base colour, creating a darker result which is excellent for shading.

Darken only applies colours that are darker than the base colour, and is also good for shading.

Color preserves the luminance of the base colour, and uses the hue and saturation from the origin point.



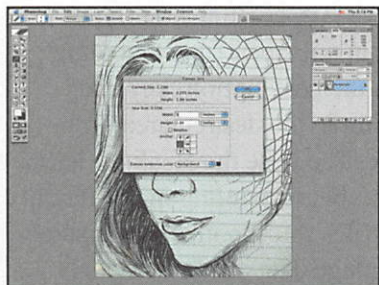
Screen multiplies the inverse with the base colour, creating a light result which is excellent for highlights.

Lighten only applies colours that are lighter than the base colour, and is also good for adding highlights.

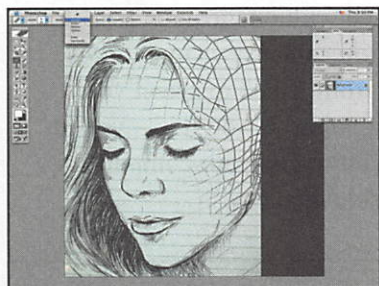
Luminosity leaves the hue and saturation untouched, but applies the luminance from the sampled origin point.

Artistic healing techniques

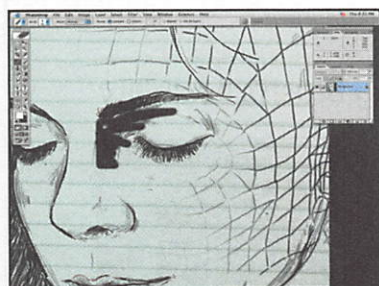
A few clever techniques can turn your Healing Brush into a traditional shading tool



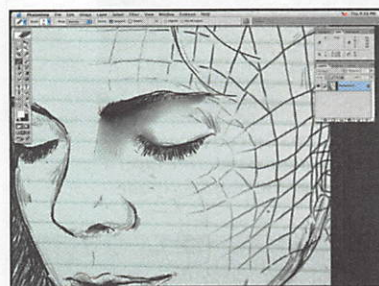
1 The way the Healing Brush blends is very similar to the way in which an artist would use a blending tool. It's an excellent way to add shadow to your scanned drawings. To get started, open up a scan of a drawing. Ensure that the background colour in the toolbox is set to black, choose **Image > Canvas Size** from the menu and increase the canvas size to one side of the image.



2 The black area at the side is merely there to provide an origin point for shading. Select the Healing Brush and, in the tool options bar, set the blending mode to **Multiply** and choose a very soft brush of around 10 pixels in diameter. Ensure that the **Align** function is unchecked. Hold down the [Alt/Option] key and click anywhere in the black area to define the origin point.



3 Now click and drag using the Healing Brush. Choose any area of your drawing that requires shading and roughly paint the approximate shape that you require – it can be quite rough at this stage. Don't release the mouse button until you're finished, and don't let the fact that what you've drawn looks like a horrible black brushstroke alarm you.



4 Release the mouse button and watch that horrible black stroke disappear. In its place you'll see the results of shading with the Healing Brush. Use smaller strokes to paint over any missed areas within the shape, and paint around the edges of the shaded area to blend it further with the surrounding image.



More than shadows

While this technique works very well for adding shadows, what about creating highlights? No problem – instead of a black colour bar on the side, choose a white one.

And instead of using a **Multiply** blending mode, try **Screen** or **Lighten**. Then use the exact same method to sample the light-coloured area and paint over areas where you want blended highlights to appear.



Alignment

You may have noticed that we disabled the **Align** function before we used the Healing Brush. This is because we didn't want to preserve the distance between the origin point and the Healing Brush while working – in some cases the origin point could move out of the sidebar and into the drawing. Also, with **Align** disabled, our initial origin point is always used until we specify a new one.

Using multiple files

The Healing Brush Tool can also work its magic between one open file and another



Multiple files

If you're using the Healing Brush across multiple files, they can be layered files as well; make certain that the relevant layer of the image you're sampling data from is selected in the Layers palette. Note that Photoshop won't allow you to sample data from a layer that has had its visibility disabled.

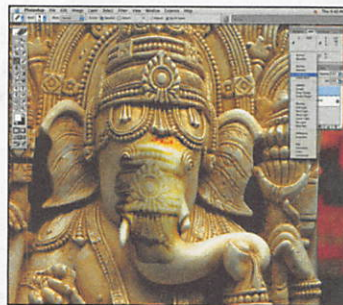
The basic job of the Healing Brush Tool is to define an origin point within a file and then paint the sampled pixels into another area of that same file, creating a seamless merged result by blending the sampled pixels with the existing pixels in the new location. However, the Healing Brush can also be used in less-obvious ways, and it isn't restricted to working within a single file either. By having more than one file open when you're using the Healing Brush you greatly increase the possibilities of what you can

achieve. Try creating an origin point in one open file by holding down the [Alt/Option] key and clicking in the desired area of the image. Then use the Healing Brush Tool to begin painting in a different open file. You'll notice immediately that image data can be sampled from one open file and seamlessly blended with image data in another file. You can have as many files open from which to select your origin points as you like – you're only limited by your computer's available memory.

USING MULTIPLE LAYERS

The Use All Layers option enhances the Healing Brush's flexibility

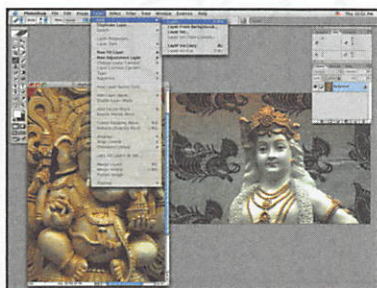
The Healing Brush, like the Clone Stamp, provides you with a Use All Layers option in the tool options bar. When this is enabled, the Healing Brush samples data from all visible layers, not just data sampled from the current active layer. This is an excellent tool for preserving your original image. You can sample data from the original image and then paint using the Healing Brush on a separate layer on top of the original. This not only leaves your original image intact, it allows you to make use of layer features such as opacity, blending modes and layer sets. You can also mask what you've done with the Healing Brush by using layer masks.



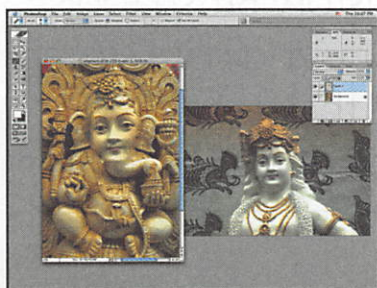
The Use All Layers function makes it possible to paint on a separate layer and then change the blending mode

Beyond basic healing

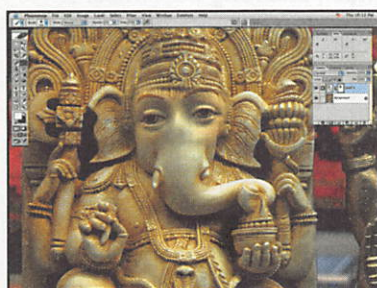
Your options increase exponentially when you combine multiple layers with multiple files



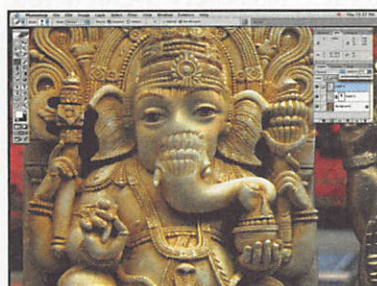
1 The first step was to open a couple of files in Photoshop and display them so they were both visible. Next, we selected the Healing Brush. A soft brush tip was specified and the blending mode was left as Normal. A new layer was created in the Layers palette of the file on the left.



2 The [Alt/Option] key was held down and the left eye in the image on the right was clicked on to define it as an origin point. Then the Healing Brush was used to paint over the face of the elephant on the new layer in the image on the left.



3 A layer mask was added to the layer and the Brush Tool was selected. Using a large, soft brush tip, a low opacity setting of around 30 and a foreground colour of black, a series of gentle strokes were introduced in the new layer mask, masking the edges and hiding the nose and mouth. Then the Healing Brush was selected, and another new layer was created in the Layers palette.



4 With the Use All Layers function enabled, an origin point was specified on an area of background detail. Then the detail was painted over the face using the Healing Brush on a new layer. The detail on this layer was moved down a little with the Move Tool. In the Layers palette the opacity of the current layer was reduced.



Colour modes

To successfully use two files together in conjunction with the Healing Brush you need to bear in mind the colour modes of the source and destination images. The images must have the same colour mode, or Photoshop won't allow you to sample from one and paint the sampled data into the other.



Bit depth

Photoshop allows you to work in two different bit depths, 8-bits-per-channel or 16-bits-per-channel. Like colour modes, bit depths have to be the same for both files if you want to use the Healing Brush between them. If your bit depths don't match, Photoshop will warn you when you attempt to use the Healing Brush. You can check an image's bit depth and colour mode by clicking on Image > Mode.

Chapter 7

THE HISTORY BRUSHES AND PALETTE

In this chapter...

- ☐ Experiment with History Brush blending modes and opacity settings
- ☐ Use the Brushes palette options to their full potential
- ☐ Create different artistic styles using the Art History Brush Tool's Style options
- ☐ Understand the Art History Brush Tolerance and Area options
- ☐ Create states specifically for use with the History Brush Tool

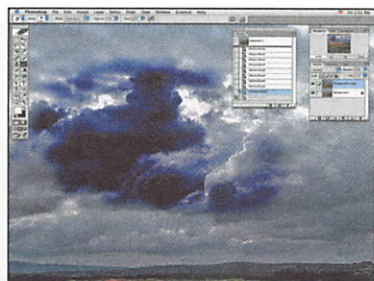
The History Brush and Art History Brush tools provide you with options for using data stored in the History palette, and at the same time make use of some familiar paint tool functions

Think of the History palette as an area in Photoshop where the work you do is chronicled for your reference at any point. Every time you use a tool, or edit or apply a change to an image file, a new image state is added to the History palette. For instance, if you make a selection, paint within that selection and then deselect it, each specific task will be entered into the History palette as a separate state. When you select a state from the History palette, the image reverts back to the state that it was in at the time when that specific change was performed and recorded. The History palette is very flexible, offering options such as saving

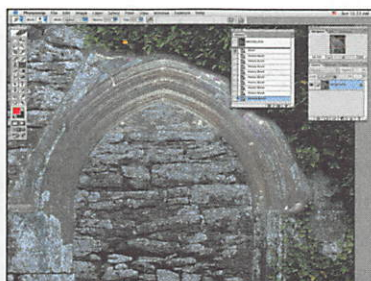
snapshots, enabling non-linear history and specifying the number of history states that are stored.

The History Brush

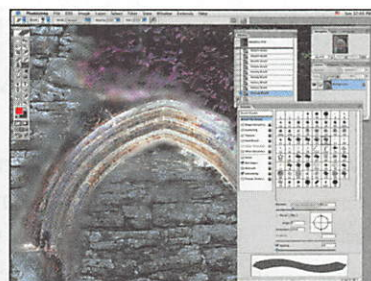
The History Brush Tool allows you to use a stored snapshot or state from the History palette as a source, and then paint that data into your image file. This is very useful if you change something and later decide you want to revert to the state before you made the change in part of your image. Specifying the state or the stored snapshot, and then painting with it using the History Brush accomplishes just that. However, you can expand on this impressive



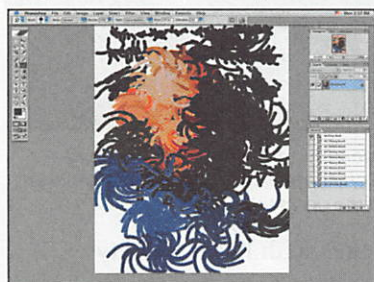
Page 70 Combining blending modes can produce some interesting results



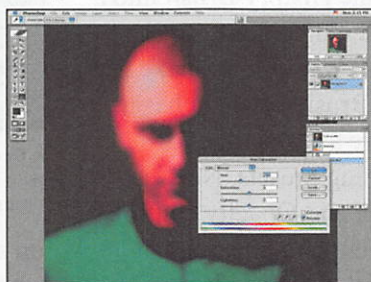
Page 71 Combine a variety of opacity settings with various blending modes



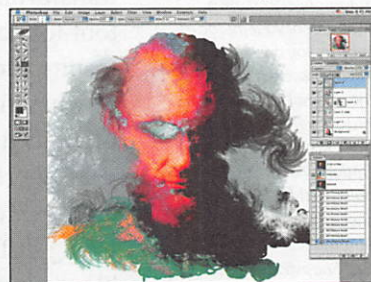
Page 72 The History Brush provides access to brush controls and presets



Page 74 Take control of more than just brush stroke size with the Area function



Page 76 Create some interesting effects for use as snapshot sources



Page 77 Get creative by combining the Art History Brush with other effects

yet basic use of the History Brush. Because it's essentially a paintbrush tool, you can make use of all the features, settings and flexibility offered within the Brushes palette to get creative with your brush strokes. The list of blending modes in the tool options bar will allow you to alter how the painted strokes appear in your image when they're blended with underlying layers or pixels, enabling you to create interesting effects with your history states and snapshots.

The Art History Brush

The Art History Brush Tool is similar to the History Brush in that

it enables you to paint brush strokes using source data taken from a specific history state or stored snapshot. However, there are a few features that are unique to the Art History Brush Tool which make it a very different animal indeed. These features allow you to combine the history state data with a plethora of artistic tool options, enabling you to create brush strokes using history data in a number of different styles. It's through experimenting with these available styles, and by developing an understanding of Area and Tolerance settings, that the vast potential of this unique tool is realised.

Exploring the History Brush

The History Brush's features enable you to get creative when painting from history states



Initial snapshot

You can specify that the History palette will automatically create a snapshot of your image as soon as you open it, so you'll always have a reference of the original state in the History palette to sample from. Access the History Options via the History palette's fly-out menu and check the box beside **Automatically Create First Snapshot**.

A number of features become available in the tool options bar when you select the History Brush. Deviating from the obvious when you use these options is what transforms the History Brush into a tool for achieving unique, creative results. Don't be afraid to make use of what the Brushes palette has to offer, as there are a number of very interesting presets. Next up are the Mode and Opacity controls. Using different combinations of blending modes can produce some interesting results, while building



A Gaussian-blurred history state was used with a Color Burn blending mode to paint over areas of the sky in this image

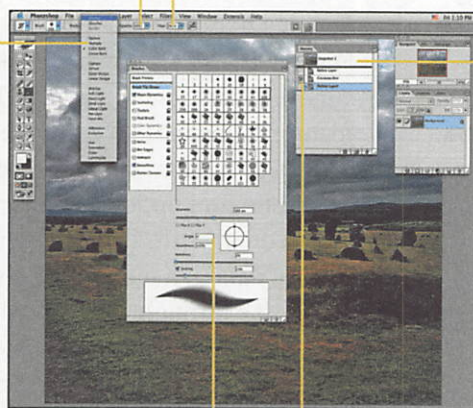
up strokes with lower opacity settings can create unpredictable yet subtle results.

HISTORY BRUSH FEATURES AND OPTIONS

You don't always have to work at 100% opacity. Feel free to try layering strokes with lower opacity settings for a subtle effect.

The full list of blending modes is at your disposal for creating interesting stroke effects with the History Brush Tool.

Choose interesting brush shape presets from the Brushes palette, and alter them to achieve artistic results with the History Brush.



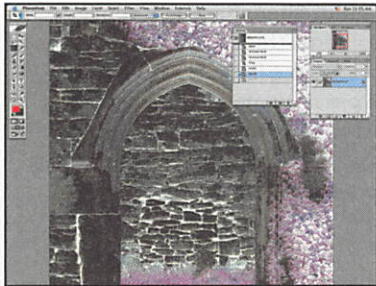
Use different Flow settings to determine how quickly paint is applied, or simulate Airbrush effects and spray your history state data on to the canvas.

Select any history state or snapshot by clicking in the column to the left of it, defining it as your source when using the History Brush.

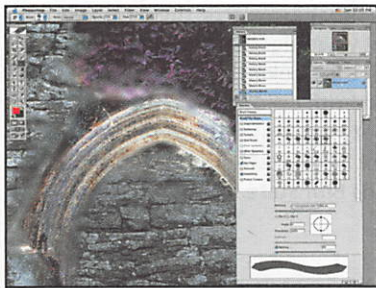
Create custom states and snapshots that you wouldn't otherwise use in your daily workflow, simply for use with the History Brush.

Getting creative with History

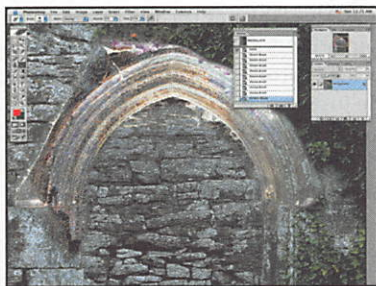
Clever use of opacity settings and blending modes will produce interesting results



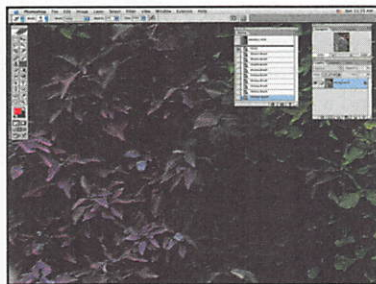
1 Every time a change was performed to this image it was recorded in the History palette, as you can see. The image was inverted by choosing **Image > Adjustments > Invert** from the menu. Then, the same option was chosen again, to revert the image to its original appearance. Clicking on the previous state reveals that the inverted image is recorded in the History palette.



2 Clicking on the last state in the list returns the image to its most recent state. The History Brush is selected, and the column to the left of the inverted state is clicked on in the History palette, specifying this as the source for the History Brush. **Lighten** is selected as the blending mode and the History Brush is used to paint over areas of the doorway, giving it a ghostly glow.



3 The opacity of the brush was reduced to 74% and the blending mode was changed to **Overlay** in the tool options bar. Then, using the same history state as a source, a series of strokes were painted over the same areas in the image, sometimes three or four times to really exaggerate the effect.



4 The blending mode was then switched to **Color**, and the opacity setting was reduced to 50. Again, using the current history state, the History Brush was used to build up strokes over some of the vines in the image. Then the opacity was reduced to 25 and the softer strokes were painted around the edges of the previous strokes to blend the effect into the background image.



Auto snapshots

It can be a good idea to have a record within your document of what you've done each time you save your file. By choosing the **Automatically Create Snapshot When Saving** option in the History Options, you're instructing Photoshop to store a snapshot of your image each time you save, providing you with a number of saved composites for use with the history tools.



Snapshot options

When you choose the **New Snapshot** option from the History palette's fly-out menu, there are three options you can choose from. You can save a snapshot with the layers merged, with the document in its current state, layers and all; or you can simply take a snapshot of the layer you're currently working on.



Creative history usage continued



A little innovation within the History palette and the Brushes palette goes a long way



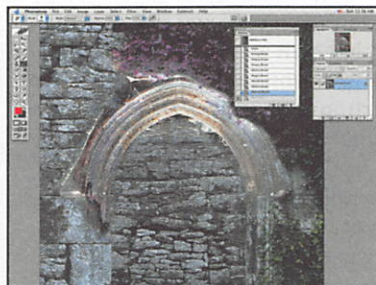
New documents

The History palette enables you to create a new document from your current snapshot or state. Simply select the snapshot or state in the History palette and click on the 'Create new document from current state' button at the bottom of the History palette. This creates an entirely new document, and leaves your existing document untouched.

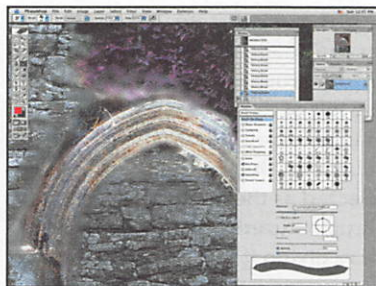


History preferences

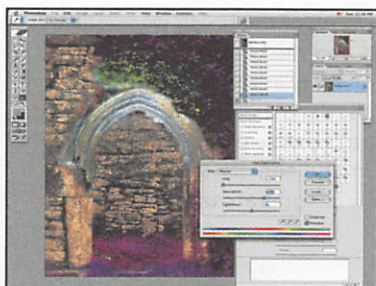
The number of states that are saved in the History palette can build up quickly when you're working in Photoshop. Depending upon your particular machine's processing power and available hard drive space, you may want to limit the number of states that are stored. To do this, access the General Photoshop preferences (Photoshop > Preferences > General) and enter a number in the History States field.



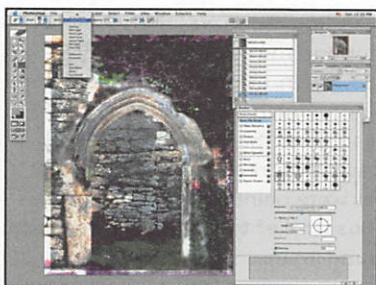
5 A Lens Blur filter effect was applied to the image. This state appears in the History palette as the final step. The state above it, the previous state, was selected as the current state. Then the Lens Blur state underneath was specified as the source state for the History Brush.



6 In the Brushes palette, the 60-pixel chalk preset was selected. Then, to emphasise the edges of the stroke, the Wet Edges option was enabled. With a Normal blending mode and an opacity setting of 100%, this brush was used to paint blurred strokes into the image from the Lens Blur state.



7 A drastic Hue/Saturation adjustment was performed, and this was added as a new state to the History palette. The previous state, the one just above it in the History palette, was selected as the current state, and then the Hue/Saturation state was selected as the source state for the History Brush.

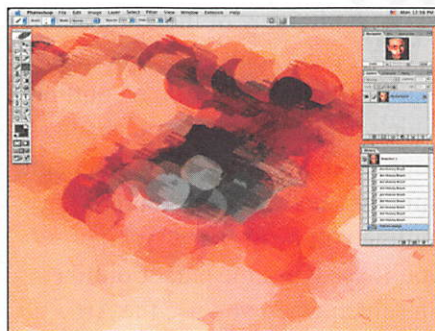


8 In the Brushes palette, a different tip preset was chosen and Wet Edges was deactivated. The blending mode was switched to Overlay, and a series of strokes were painted within the image. Then the mode was switched to Linear Dodge, the opacity was reduced to 50%, a different preset tip was selected and more strokes were introduced into the image.

Hand-painting history

Combine a variety of different tools and effects to get the most from the Art History Brush

Like the History Brush, the Art History Brush borrows source information from a state or snapshot you specify in the History palette. What makes it unique is that it uses stylised strokes that will create effects reminiscent of impressionist paintings. As with the History Brush, the secret to getting the most out of this tool lies in exploring and combining features. The Style menu offers options for controlling the shape of the paint stroke; varying these within an image is essential if you don't want the result to resemble



Developing an understanding of the various options in the Style menu is essential if you're to master the Art History Brush Tool

a prefab paint filter effect. And always make certain to alter the Mode and Opacity settings.



Source is safe

You'll notice that once you have filled the History palette to the specified capacity, the oldest states are replaced as new ones are added. However, the source state you specify is an exception to this rule.

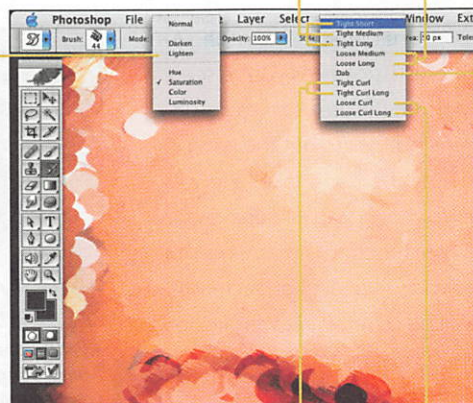
As long as you have a particular state designated as the source for one of your History tools, it won't be purged from the list.

MODES AND STYLES

The Tight options keep the paint dabs in your strokes close (tight) together as you paint, the different Tight options specifying differing stroke lengths.

Although you're not presented with the entire list of blending modes, the basic ones included here will be sufficient for creating diversity in your strokes.

The Tight Curl options are essentially the same as the Tight options, but the dabs within your paint strokes are curled, changing the look of the strokes.



Applying dabs with the Loose options makes your resulting strokes less connected, and a little messier, or looser, than the Tight options.

Dabs are a much simpler stroke option, and prove useful when you need to introduce a sense of normality to your paintings.

Again, curl is added to the Loose stroke. Choosing the Long option will give you a much more pronounced curl within the stroke.

Adjusting the Area setting

Here's how to specify the area of your image that will be affected by the History Brush



One main difference

The method of hovering your cursor over the actual word in the tool options bar will work with any of the options that allow you to specify numeric input. The main difference between the Area setting and the others is that the Area setting has no little triangle to the right of the numeric field that displays a proper slider, whereas the other functions do.

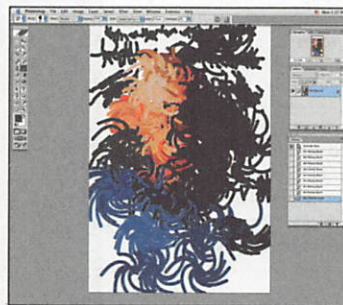
With many of the Photoshop paint tools, you'll notice that your cursor takes on an outline which is the same size and shape as your brush tip. And, when you paint, only the area within the cursor outline will be affected. While you'll see the same cursor outline on screen when you use the Art History Brush, the area that's affected is specified differently. In the tool options bar you'll notice a numeric field in which you can specify the area that the brush will affect. This option behaves a little

differently to most other numeric fields. Usually there's a triangle button to the right which, when clicked on, displays a slider. You can still use a sliding method to change the numerical data in the Area function, but it isn't so evident. You need to hold your mouse over the actual word 'Area' in the tool options bar. You'll notice that it changes to a pointing finger with arrows on either side. Click and drag to the right to increase the area, or click and drag to the left to decrease the area.

USING THE AREA FUNCTION

The Area function specifies more than just the stroke size

The Area function specifies the size of the area that the Art History Brush will cover with brushstrokes. As you've seen, the cursor outline doesn't indicate the area size, so you'll have to try a few different Area options to get the hang of how it all works. Don't be put off – it only takes a few different strokes to get a feel for how the tool behaves. One interesting thing about the Area function is that, when it's increased or decreased, it not only increases or decreases the area in the image that will be covered with strokes, but actually increases or decreases the amount of strokes that will be placed within that area as you paint.

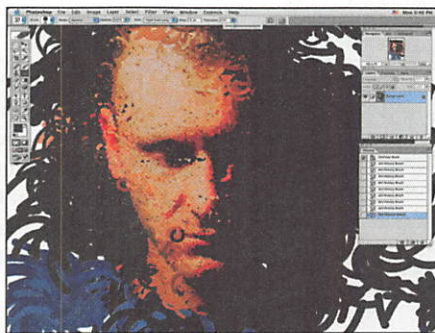


As with other functions, varying the Area setting within an image will create a more interesting result

Setting the tolerance

By now Tolerance will be a familiar function. However, in this case it works a little differently

The Tolerance feature of the Art History Brush is another feature that, once fully understood, will help you use the tool to its full potential. Without the Tolerance setting, the Art History Brush is just a History Brush Tool that allows you to do some interesting things with brush stroke effects. By adding the Tolerance feature, Adobe has made this tool 'selective' in how it works. The Tolerance setting forces the Art History Brush to analyse how much the areas you wish to paint in differ from the colour in the source state



Based on your Tolerance setting, the Art History Brush will decide what regions of the image paint should be applied to

or snapshot in the History palette, and then calculate where to allow the paint to be applied.



Remember layers

Don't forget about layers when you're working with the Art History Brush. This tool will work just fine on transparent layers. Incorporating layers enables you to preserve what you have painted on one layer and then add to it on another, allowing you to make use of layer masks to control how your layers blend together, while leaving their individual layer contents intact.

SOME TOLERANCE SETTING EXAMPLES

- ☐ **0%** basically deactivates the Tolerance entirely. Using this setting the Art History Brush will allow you to paint anywhere in your image.
- ☐ **25%** provides a moderately-restricted paint area when you're roughly painting over an image that has, for example, had a Gaussian Blur effect applied to it, while specifying a history state before the Gaussian Blur filter was applied.
- ☐ **75%** is more restricted when you're using an unblurred history state as a source while you're painting on a blurred image. The painting effects will usually be restricted to areas of obvious transition in colour only. Subtle transitional areas or solid colours will remain untouched.
- ☐ **100%** is as fussy as this tool is going to get. You'll most likely only use this setting when you want very slight evidence of the Art History Brush Tool to appear in your image.



Blending modes

Although the blending mode selection for the Art History Brush Tool is quite limited in the tool options bar, don't forget that the full list of blending modes is available in the Layers palette. By painting different areas of the image in different layers, you can apply a variety of modes to your brush strokes by changing the Layer blending modes, surpassing what's available in the tool options bar.

Creating art from history states

You can create stunning works of art once you master a few Art History Brush techniques



Saved snapshot titles

Photoshop gives you the option to create a snapshot of your file in the History palette each time you save. Photoshop names the snapshots as they're created, and each is named with the current time; this is helpful for finding particular snapshots to use as source material later on.

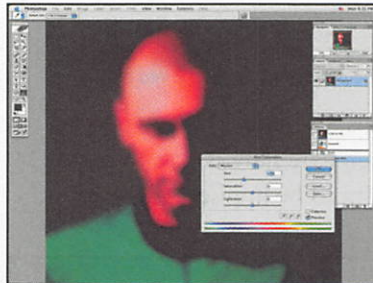


Removing states

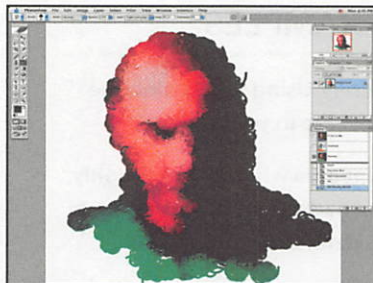
You can remove individual states or snapshots in the History palette using one of three methods. The first method is to select a state or snapshot and drag it on to the trashcan icon at the bottom of the palette. The second method is to select a state or snapshot and choose Delete from the History palette menu. The third requires that you right-click ([Control]+click on a Mac) on a state or snapshot and choose Delete from the pop-up menu.



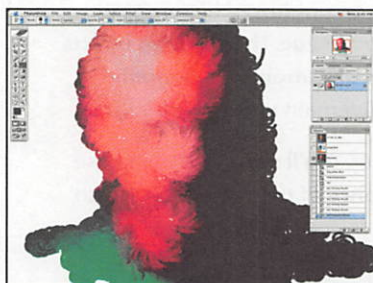
1 The first thing to do is create a couple of snapshots to work from – snapshots won't be overwritten as you work, like history states will. Image > Adjustments > Invert was chosen from the menu to invert the image. New Snapshot was selected from the History palette menu; the snapshot was named and then added to the existing original snapshot in the History palette.



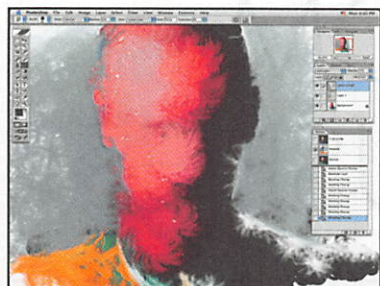
2 Next the original snapshot was chosen in the History palette and the image was blurred by choosing Filter > Blur > Gaussian Blur from the menu. A radius of 25 pixels was specified and Image > Adjustments > Hue/Saturation was selected from the menu. The Hue was drastically altered, and then another new snapshot was created from this current state and saved in the History palette.



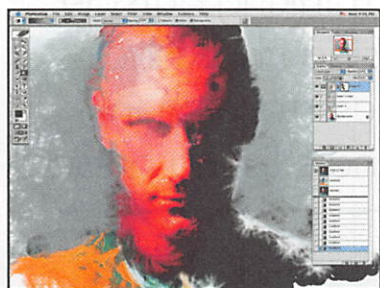
3 The Edit > Fill option was used to fill the entire canvas area with white. Then the Art History Brush was selected. The column to the left of the most recent snapshot was clicked on to designate it as the source. Then, in the tool options bar, the Tight Curl Long style was selected and the area was set to 80 pixels. With the Tolerance set to 0, some strokes were painted across the background.



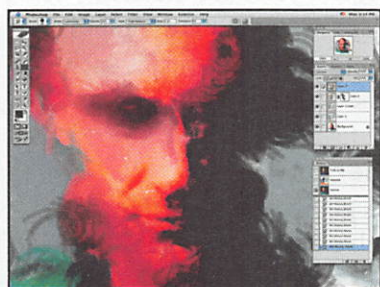
4 The tool blending mode was switched to Lighten, opacity was reduced to 50% and the Style was changed to Loose Curl Long. Then a series of brush strokes were painted across areas of the face where the transition from light to dark was rather sharp, to create a smooth blend that looks rather hairy as a result of the Style setting. A new layer was created in the Layers palette.



5 Here the tool blending mode was returned to Normal and the opacity was reduced to 20%. The Style was set to Loose Long and the Area setting was reduced to 50 pixels. Then some areas around the head were painted using the current Art History Brush settings on the new layer. The layer was duplicated in the Layers palette and the blending mode was changed to Soft Light.



6 Here the third snapshot was specified as the source. A new layer was created with a Hard Light blending mode. The Healing Brush style was changed to Dab, and some areas of the face were painted over on the new layer. A layer mask was added and the Radial Gradient Tool, with a Foreground to Transparent setting, was used to edit the mask and blend the Dab strokes into the underlying image.



7 A new layer was created and the blending mode was left at Normal. The Art History Brush was selected and the Style was switched to Loose Curl Long. A series of strokes were painted on the new layer. Then the Area setting was reduced to 5 pixels, the blending mode was changed to Luminosity and the Style was changed to Tight Medium. Using these settings, more strokes were added.



8 A new layer was created with a Lighten blending mode. The diameter of the brush was reduced to 5, the Style was changed to Tight Curl and the area was reduced to 5 pixels. The inverted snapshot was specified as the source, and then the Art History Brush was used to paint some smaller brush strokes on to the layer.



Non-linear history

When you select a state that isn't at the bottom of the list, the underlying states are greyed-out in the History palette. As soon as you make another change in the image a new state is added under your current state, replacing the greyed-out states. However, if you enable the non-linear history setting in the History palette, your change will be added to the bottom of the list and the other states will remain in the History palette.



Brushes palette

Throughout this walkthrough you'll notice that a simple, hard-edged, round brush tip preset was used with the Art History Brush. Do remember though that the entire Brushes palette is at your disposal. Even things as basic as switching to an interesting preset tip shape can make your Art History Brush strokes look quite different.

Chapter 8

GETTING THE MOST FROM YOUR BRUSHES

In this chapter...

- ☐ Create your own custom brush tips
- ☐ Learn all about the Jitter options
- ☐ Explore the pressure sensitivity options
- ☐ Combine the Brush Tool with Photoshop's layer technology

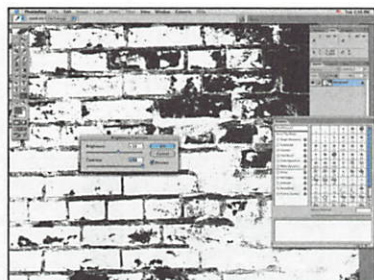
In this chapter we'll get you thinking outside the box when it comes to using Photoshop's brushes – there's more to these tools than simply using rounded tips and existing presets

You certainly aren't limited to the default brush tip presets, or even all of the extra preset libraries included within Photoshop; There's so much more you can do. The ability to create your own custom brush tips has been around since some of the earliest versions of Photoshop. And, once you understand the procedure and know what to look for when it comes to source material, you'll begin to realise that you can literally create any brush shape that you like; you're limited only by your imagination. Custom brush tips can be used with all the same options that preset brush tips can inside the Brushes

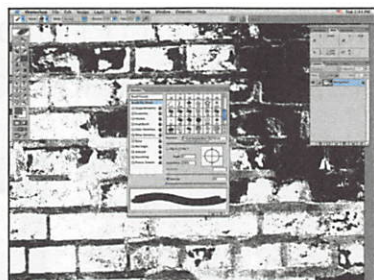
palette, and you have the ability to alter aspects of your custom brush by changing characteristics such as roundness, spacing and angles.

Further options

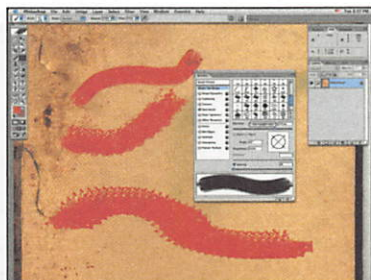
Things get really interesting when you delve a little deeper into the Brushes palette and explore some of the features that may appear a little daunting to novice users. Options such as Jitter appear within the controls for characteristics such as Color Dynamics, Scattering, Texture and Shape Dynamics. Developing an understanding of features like Jitter will assist you in getting the most out of the various functions within



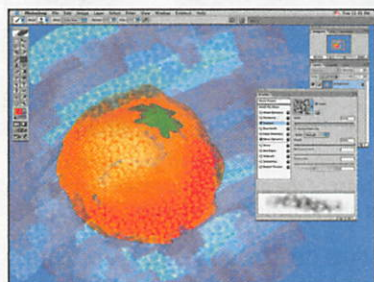
Page 81 Learn how to prepare imagery that will be used for custom brush tips



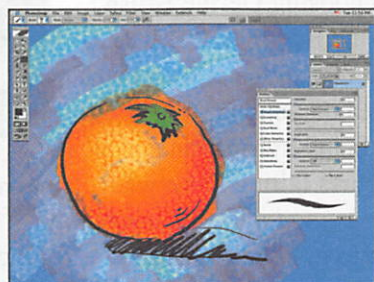
Page 81 Define a custom brush tip and add it to the presets in the Brushes palette



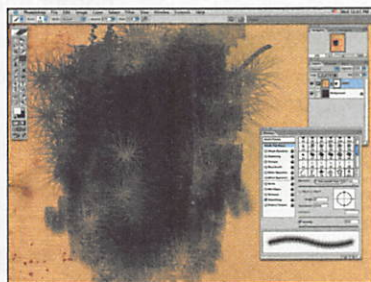
Page 83 Explore the various options contained within the Dual Brush function



Page 86 Add patterns to simulate the effect of painting on a textured surface



Page 86 Experiment with Pen Pressure and a variety of Jitter settings



Page 87 Combine the paint features with multiple layers and layer masks

the Brushes palette. The Dual Brush enables you to create a multitude of different effects by combining more than one brush preset. And adding effects like Noise and Wet Edges will allow you to quickly customise your brush creations further by working in combination with the other features you've employed.

Painting

Making use of Brush Tool options, as well as layer technology, is essential if you want to create artistic and innovative images. Altering blending modes and opacity settings can create an entirely different stroke, and allow you to build up strokes

as you would with traditional paint. Working with layers allows you to build up strokes and preserve the content of individual layers while altering the image as a whole. It also allows you to take advantage of masking, varying opacity and layer blending modes.

Tablet users

Those of you fortunate enough to possess a pressure-sensitive graphics tablet will be very impressed with the integration of pressure sensitivity into the Brushes palette as a whole. When applying certain effects you have the option of controlling them by varying the stylus pressure.

Custom brushes

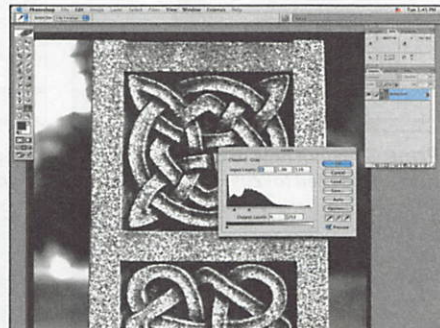
You're not limited to Photoshop's supplied brush presets – you can create your own



Photoshop 7

Those of you who are using version 7 of Photoshop will notice a difference when you define your brush preset in the Edit menu. It will simply say Define Brush instead of Define Brush Preset. Don't be alarmed – it means the same thing.

Creating your own Brush presets allows you to give your work a unique quality and style. Defining a preset is as simple as isolating a section of an image with a selection border and choosing Define Brush Preset from the Edit menu. Brush presets work in greyscale, with black being the area that applies 100% paint, white being transparent and all greyscale values falling in-between. It's therefore a good idea to convert your images to grayscale and edit their contrast and brightness before you define sections as brush presets.



Here the image is converted to grayscale and the contrast of the pixels is increased before a selected area is defined as a preset

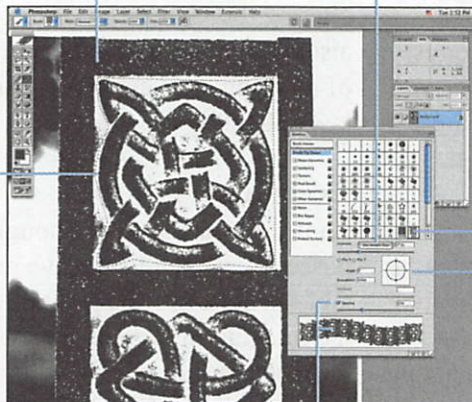
Once you define a preset it appears in the Brushes palette, where you can edit it using the functions therein.

CREATING AND EDITING BRUSH PRESETS

The image was converted to grayscale first. Then it was inverted, and the contrast was adjusted to achieve the desired result.

The Lasso Tool was used to create a closed selection border before Define Brush Preset was selected from the Edit menu.

As you adjust the spacing within your stroke via the slider, the preview below it updates to show you the resulting stroke.



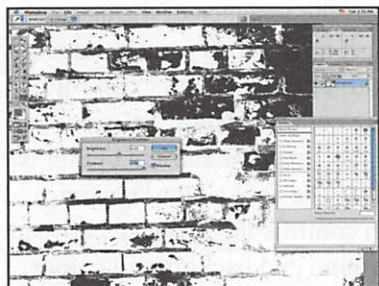
You can use the brush preset at its current size, or increase or decrease the diameter as you wish.

When you define a preset you're prompted to name it, and then it's added at the end of the list of presets in the Brushes palette.

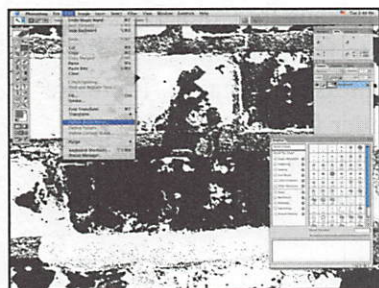
Adjust the angle and roundness of your new preset here. You also have the options to flip it on the x or y axis.

Creating custom brush presets

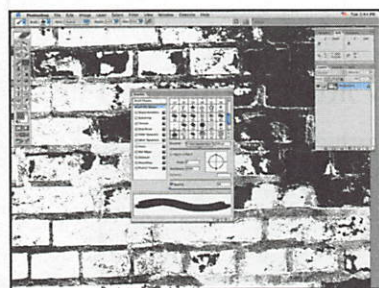
Once you've mastered the process, beware, or you'll end up with dozens of custom brushes



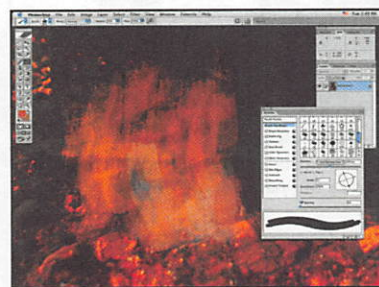
1 This image was chosen because of the isolated areas of rough details and high contrast. It will be easy to isolate an interesting shape from the white paint on the bricks. First the image is converted to greyscale by choosing Image > Mode > Grayscale. Then it's inverted by choosing Image > Adjustments > Invert. The contrast is increased by choosing Image > Adjustments > Brightness/Contrast.



2 The Magic Wand Tool is selected from the toolbox. The Tolerance is set to 50 and the Anti-aliased and Contiguous options are enabled. A black area is clicked on to select it and, with the [Shift] key held down, some surrounding black areas are clicked on to add them to the selection. Then, with the selection active, Edit > Define Brush Preset is selected from the menu.



3 The preset is named and it then appears in the Brushes palette. The Brush Tool is selected from the toolbox so that the brush presets can be accessed. The new preset is selected from the list and Brush Tip Shape is selected from the list of options at the left side of the palette to access the editing features. The diameter is reduced to 100 pixels, and the spacing is reduced to 1 for a smooth stroke.



4 The angle of the stroke is changed by clicking and dragging on the little arrow in the angle/roundness preview. Then a new file was opened, and a few strokes were painted with the new preset using varying colours and opacity settings. Once a preset has been saved in the Brushes palette it can be used within any file you open.



Selection tools

You can use any of the selection tools to capture areas of your images for use as brush presets. The selections can be as simple as Rectangular or Elliptical marquee, or as complicated as advanced selections made with the Color Range Tool.



Editing brush presets

Remember, your brush presets can be edited at any point after they've been created. Try using a variety of angles, spacing, size and roundness settings with the same preset within an image to achieve a variety of interesting strokes.

Understanding Jitter

To use Jitter to its full potential you need to know how it works with different functions



Tablet connection

If you choose any of the pressure-sensitive control options for any of the Jitter settings within a dynamic function, Photoshop checks to see if a tablet is properly attached and configured. If Photoshop has any problem communicating with the device it will display a warning sign next to the Control menu.

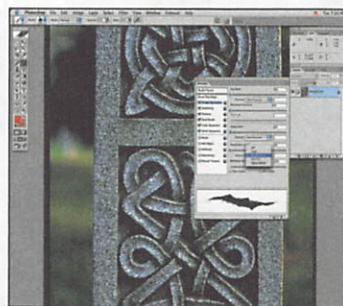
The best way to describe Jitter is as ‘randomness’. Jitter controls the randomness or variance of a particular dynamic element within a function. There’s one common rule when using Jitter: increasing it increases randomness, and decreasing it reduces randomness. The Size Jitter option for Shape Dynamics controls how the brush marks’ size varies within a stroke, whereas the Angle and Roundness Jitter options control the variance within these shape attributes. The Count Jitter option for Scattering

controls the variance of the amount of brush marks within each spacing interval. The Depth Jitter control for Texture controls depth variation when the Texture Each Tip option is enabled. The first Color Dynamics option controls the variance between foreground and background colour within your stroke; the three other Jitter options for Color Dynamics relate to Hue, Saturation, and Brightness percentages. There are two Jitter functions for Other Dynamics, which control the randomness of opacity and flow.

JITTER CONTROL

There are different methods for controlling how Jitter is employed

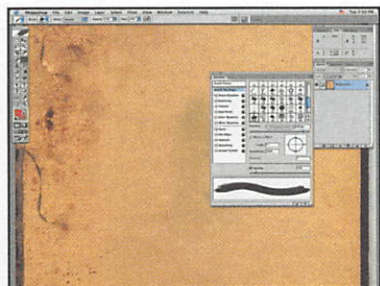
In many instances you’ll notice that, when a Jitter option is part of a dynamic function in the Brushes palette, there’s a Control pull-down menu in addition to a slider and a numeric field. In the pull-down menu there are a number of different options for Jitter Control. The Fade option allows you to fade the effect within a specified number of steps. The final three options – Pen Pressure, Pen Tilt and Stylus Wheel allow you to control the Jitter through any of these pressure-sensitive tablet functions. Leave the Control option in the Off position if you want to use the Jitter function without employing any of the available options.



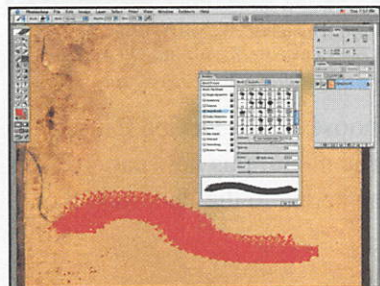
All of the Jitter values within the Shape Dynamic functions here are controlled by our pen and tablet

The Dual Brush function

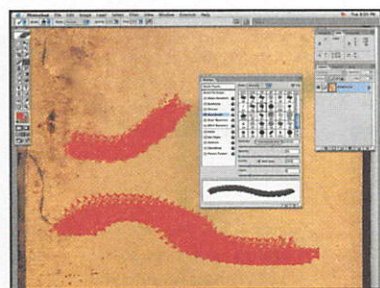
This function enables you to employ two different brush tips within your painted strokes



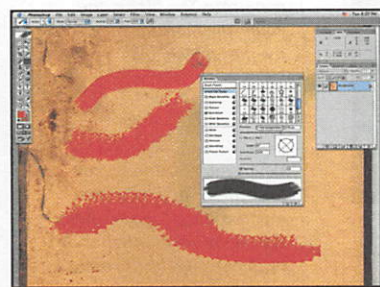
1 The Dual Brush function involves the use of a primary and secondary brush tip together. To specify the primary tip, first go to the Brush Tip Shape section of the brushes palette. Select any brush tip from the presets.



2 Now click on the words Dual Brush in the left of the Brushes palette to take you to the Dual Brush section. Select a different brush tip from the list of presets – this is now your secondary brush tip. Now you can edit the Diameter, Spacing, Scatter and Count of the secondary brush. You'll see the stroke preview change each time you change a tip preset or alter a setting. Paint a stroke on the canvas.



3 At the top of the Dual Brush section you'll see a blending mode menu. The mode specifies the method of interaction between the primary and secondary brush tips. For now, choose Multiply. Enable the Flip option at the upper-right. The Flip option enables random brush flipping, which can produce interesting effects. Paint another stroke and notice the subtle differences.



4 You can edit either the primary or secondary brush at any time to change the stroke. Go back to the Brush Tip Shape section and choose a different preset from the list. Try adjusting the angle, spacing, and diameter, and watch the stroke preview change as you do so. Paint another stroke and note the differences.



Disabling Dual Brush

You can disable the Dual Brush option at any time by unchecking the Dual Brush checkbox in the Brushes palette. This hands over the brush tip responsibilities to the primary brush that was specified in the Brush Tip Shape section. You can switch back to a dual brush at any point by rechecking the Dual Brush checkbox, where your previous settings remain the same until you change them.



Renaming Brushes

It's possible to rename any of the brush presets at any point in the Brushes palette.

There are three ways to accomplish this. Firstly, you can double-click a preset to enter a new name in the resulting dialog box.

Secondly, you can select a preset icon and then choose Rename Brush from the Brushes palette menu.

Thirdly, you can right-click on the preset ([Control]-click on a Mac) and select Rename Brush from the pop-up menu that appears.

Painting with texture

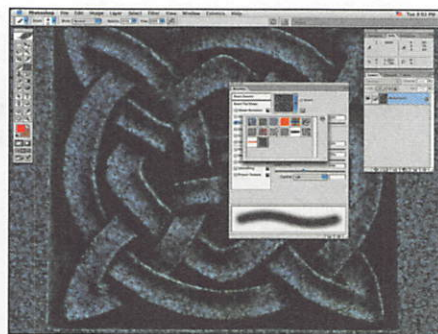
Mimic the effect of painting on canvas, and create your own custom texture patterns



Brush diameter limits

There are limitations when adjusting the diameter of your brush tips, although in practice they're not really that limiting. Your minimum size can't be smaller than a single a pixel – no decimals are allowed – and the largest brush tip size specified can be no more than 2,500 pixels.

The Texture section of the Brushes palette is a very interesting part of the Adobe paint engine. These options allow you, in a nutshell, to make it appear as if your brush strokes are painted on a textured canvas, with raised and recessed areas becoming evident as you paint. You can select an existing pattern from the preset picker, or you can create your own. Creating a pattern is very much like creating a brush tip. You simply select a section of the image that you want to use with the Rectangular Marquee Tool



Once a pattern has been chosen from the pattern picker there are a number of options available for editing your brush texture

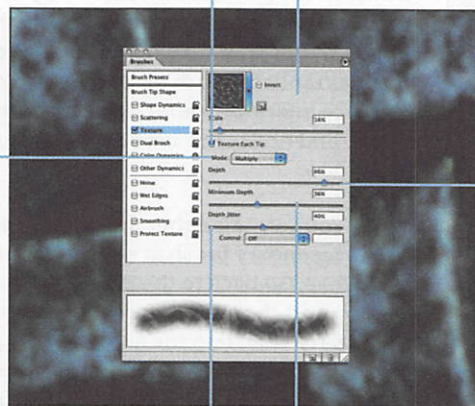
and choose Edit > Define Pattern from the menu; this new pattern will then be added to the Pattern picker.

BRUSH TEXTURE EDITING OPTIONS

This option will render each tip individually as it's painted, and will enable you to access the Depth variance options.

From the Mode pull-down menu you can specify which blending mode is used to combine your pattern with the brush.

Use the slider, make a numeric entry in the field, or specify a Control option to control how Jitter varies the depth of your texture.



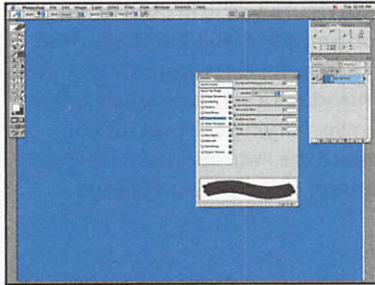
Select a preset from the picker, invert it if you like, and alter the size of the pattern within your stroke.

Depth allows you to specify how far into your pattern the paint will penetrate. The higher the value, the more visible the pattern will be.

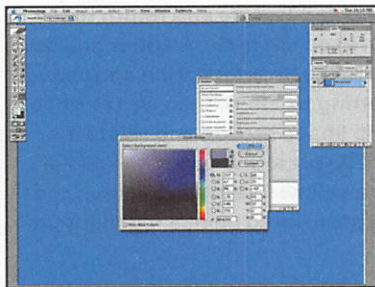
When you're using one of the options in the Control menu, this option specifies the minimum depth that can be penetrated by the paint.

More brush options

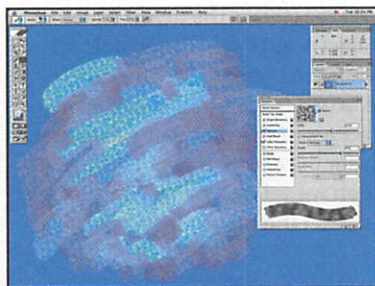
It's time to explore and combine a number of the Brushes palette features we've looked at



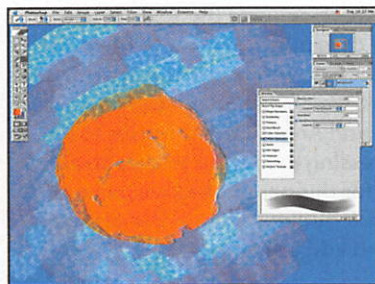
1 Here a roughly-sampled tip is selected from the list of presets in the Brush Tip Shape section of the Brushes palette. The diameter is increased to 155 pixels and the angle is adjusted slightly to -30 degrees. The spacing is reduced to 1, and Color Dynamics is activated.



2 The Control for Foreground/Background Jitter is set to Pen Pressure in this instance because a pressure-sensitive tablet and pen are being used. This means the colour displayed in the stroke will be altered depending upon the amount of pressure applied. A new foreground colour and background colour are specified using the Color Picker.



3 Now we activate the Texture section of the Brushes palette. We choose the Molecular pattern preset, and enable the Invert function. We increase the Scale to 130% and set the Mode to Multiply. We paint a series of strokes across the background of the image, with the pen pressure altered regularly to show the result of the Color Dynamics.



4 Now we enable the Other Dynamics section of the Brushes palette, and set the Opacity Jitter Control to Pen Pressure. We clicked on the Foreground colour swatch in the toolbox to open the picker and specify an orange foreground colour. Then we disable Texture and Color Dynamics and, varying the pressure of the stylus, paint an elliptical shape.



Locking

With each of the options in the left-hand column you have the ability to lock your current settings. Click on the small lock icon to the lower-right of the function to lock them; you'll see the lock icon close. Click on the icon again to unlock them and the Lock icon will open.



Removing presets

It's possible to remove brush tip presets from the list in the Brushes palette. In the Brush Presets section, click and drag a preset icon to the trashcan. Alternatively, in the same section, you can select a preset and then choose Delete Brush from the Brushes palette menu. Or you can right-click on a preset and select Delete Brush from the pop-up menu.



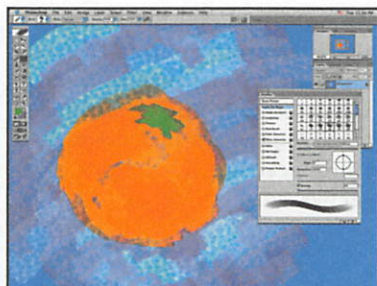
More brush options continued

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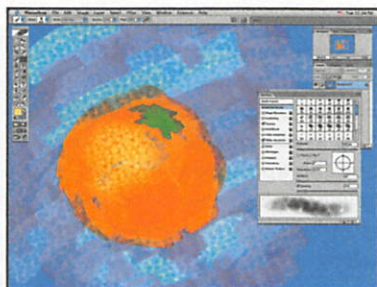


Clearing functions

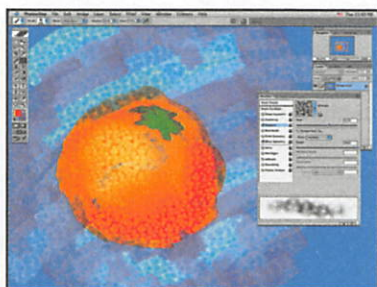
Sometimes you can have so many different combinations of dynamics and functions enabled in the various Brushes palette sections that it can get confusing, and you may want to start afresh. In a situation like this, all you need to do is select **Clear Brush Controls** from the Brushes palette menu.



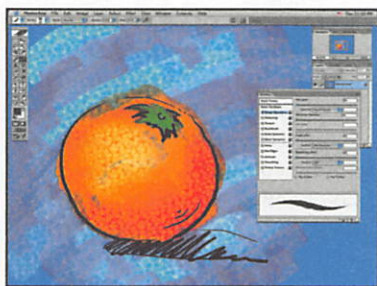
- 5 Now we return to the Brush Tip Shape section and select the Chalk 36 pixels preset. We change the Foreground colour to a green and introduce a series of brush strokes on to the canvas, varying the pressure of course, to create the indication of a stem on what's beginning to look like an orange.



- 6 We enabled Texture and return to the Texture section of the Brushes palette. We deactivate the Invert function and change the Scale setting to 111%. Then we return to the Brush Tip Shape section and select the Soft Round 200 preset. We open the picker and specify a yellow foreground colour, and use varying pressure to paint a highlight on the orange.



- 7 Here we reactivate the Invert function and select a red Foreground colour from the picker. We change the blending mode of the brush to Color Burn and paint around the edges of the orange to darken it, pressing harder in certain areas to intensify the effect. Then we select a black Foreground colour, and switch the blending mode back to Normal.



- 8 Now we deactivate the Texture and other dynamic functions. In the Brush Tip Shape section, we choose the Spatter 27 pixels preset. We enable Shape Dynamics and set the Size and Angle Jitter Controls to Pen Pressure. Pressing harder for thicker strokes, and lighter for thinner strokes, we paint a series of black outlines around the orange and the stem, and add a shadow.



Texture protection

When painting with multiple textured brush tips you can add a sense of harmony to your image by simulating a consistent overall canvas texture. Enabling the Protect texture option in the Brushes palette will apply the same pattern preset and scale setting to all Brush Presets that use a Texture.

Painting on layers

The Layers palette and its functions enable you to build up paint to create your effects

Combining the functions and flexibility offered up by Photoshop's layers with all the brush features and controls in the Brushes palette allows you to work using methods that traditional artists employ. However, working in Photoshop you enjoy a great deal more flexibility and control too. Traditional painting usually involves the process of building up brush strokes, and Photoshop allows you build up your strokes and achieve the same results while preserving the separate layers. Keeping everything

separate allows you to change your mind and alter or edit the contents of a layer at any point without altering the rest of your image. Even the most basic layer functions can assist in dramatically altering the effect. By varying the opacity and blending modes of your layers, you're able to test different paint layer effects; there's always the option to change things back to the way they were or alter any specific layer or contents at any point. Getting into the habit of working with layers gives you the flexibility to experiment.



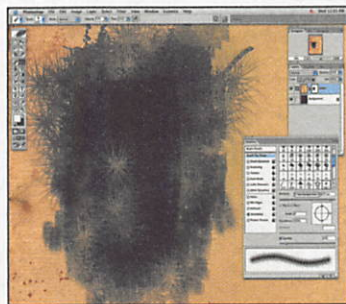
Wet Edges

This little feature in the Brushes palette is excellent for when you're building up paint strokes on a single layer or across multiple layers. When this option is enabled, paint builds up along the edges of the stroke, creating a translucent watercolour effect.

LAYER MASKS

When building up paint, don't forget layer masking options

Building up strokes on layers is an effective and flexible way to paint in Photoshop. However, don't forget that whenever you use layers, you also have the ability to employ layer masks. A layer mask will allow you to show or hide portions of your layer content and, when it comes to painting, this feature can be very handy for blending strokes on one layer with the content visible on underlying layers. Using Gradients and soft brushes within layer masks to hide areas of your layers is very effective for creating gentle transitions. You can also get creative with the tools you use within the masks themselves; try experimenting with custom brush tips and brush options.



Custom brush tips of varying size and opacity settings were used to mask the paper layer and reveal the blue paint

Chapter 9

GOING BEYOND BASIC ERASING FUNCTIONS

In this chapter...

- ☐ Learn to use the Pencil Tool's Auto Erase option
- ☐ Erase sections of images back to a history state or snapshot
- ☐ Discover how to use the Background Eraser Tool
- ☐ Use the Magic Eraser to isolate an image element from its background

The old-fashioned Block Eraser doesn't see very much use these days, simply because a number of exceptional new erasing tools offer more control and flexibility

Long gone are the days when you only had a single primitive erasing method to work with in Photoshop. In current versions of the software there's much more available in the options for this tool than for the old-fashioned, and very limited, Block Eraser Tool. There are a couple of other modes to choose from that let you take advantage of features like varied opacity, pressure sensitivity and all of the preset tips, controls and dynamics offered up inside the Brushes palette. Perhaps one of the most impressive functions in the Eraser Tool options is Erase to History. This option allows you to go far beyond basic erasing, and

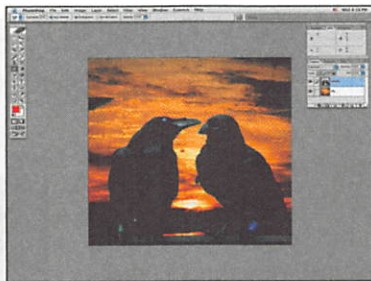
revert areas of your image or layers to states that existed previously using information borrowed from the History palette.

The Magic Eraser

The Magic Eraser Tool can be found at the bottom of the Eraser Tool pop-up menu button in the toolbox. Don't underestimate the power of this tool because it's last in the list; it's a prime example of exactly how far erasing tools have progressed since the earliest incarnations of Photoshop. The operative word in the name of this tool is 'Magic'; that's Magic as in the 'Magic Wand Tool'. The Magic Eraser uses a



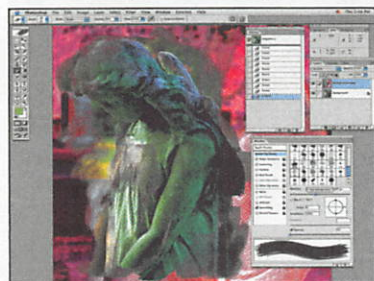
Page 90 Select and erase areas of colour in images with the Magic Eraser



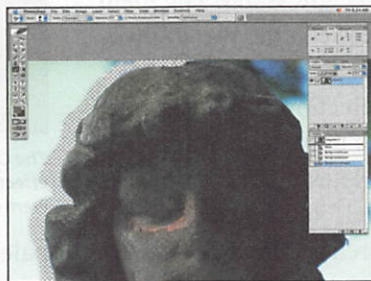
Page 91 Use the Magic Eraser to separate an object on a layer from its background



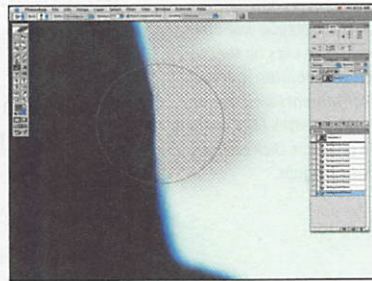
Page 92 Discover how to replace colour in high-contrast images



Page 94 Explore the Erase to History function and erase with different options



Page 96 Create knockout effects on layers and fix any resulting blemishes



Page 97 Repair halos of varying colour bands with the Background Eraser Tool

similar method of selection based on Tolerance to change groups of similar pixels. This tool shares more than a few other functions in its tool options bar with the Magic Wand Tool, allowing you to work with multiple layers, specify adjacent pixels and enable anti-aliasing.

The Background Eraser

The Background Eraser Tool is ideal for erasing an image background to transparency on a layer. This particular erasing tool appears to have been specifically designed for use with layers, and it's a good thing too, as most Photoshop users employ what layer technology offers as a

part of their daily workflow. The Background Eraser is an excellent close-cutting tool, as it will sample and erase colour intelligently, allowing you to separate image elements from their backgrounds.

Auto Erase

This gem of a feature remains unnoticed by many because of its obscure location in the tool options bar when the under-used Pencil Tool is selected. It makes use of the foreground and background colours that you've specified in the toolbox, and it behaves differently depending upon the existing colours in the areas that you click on.

The Magic Eraser explained

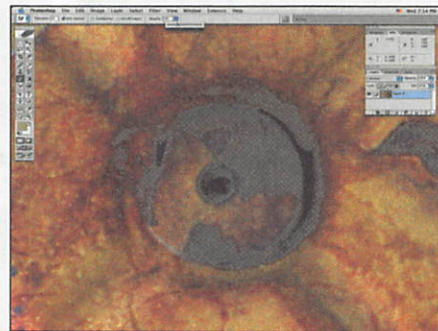
You can erase whole ranges of colour with a single click using the 'magic wand' of erasers



Locking transparency

You can lock the transparency of any layer in the Layers palette. Click on the layer you want to lock. Then click on the left-most button (the Lock Transparent Pixels button) in the palette's Lock options. To unlock it, click on the button again.

The Magic Eraser Tool, as its name suggests, borrows heavily from the Magic Wand Tool. It employs a similar method to the automated click-and-select method used by the Magic Wand. The main difference between the two tools is that the Magic Eraser doesn't generate a selection around a region of colour like the Magic Wand; it actually deletes the region of coloured pixels and replaces them with transparency. However, if the layer you're working on has its transparency locked in the Layers



The Opacity setting allows you to create unique effects. Here the setting was 25%, so the pixels were only partially erased

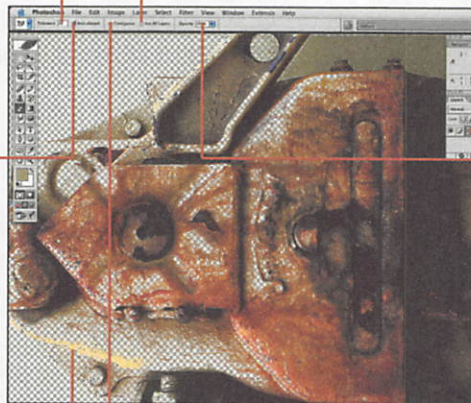
palette, then the pixels will be filled with the background colour, instead of transparency.

THE MAGIC ERASER OPTIONS

The Tolerance setting you enter here will define the range of pixels that will be erased; lower values are more selective.

The Anti-aliased function, when enabled, smooths the edge pixels of the area that you erase to transparency. Without this function edges can look jagged.

The Magic Eraser will erase to transparency. However, when layer transparency is locked it will erase to the current background colour.



The Use All Layers option uses combined data from all visible layers when you click to define the area to be erased.

The Opacity function is unique to this tool; you won't find this in the Magic Wand Tool options. It defines the strength of transparency when erasing.

Enabling the Contiguous function tells the Magic Eraser to only erase pixels adjacent to the one that you click on.

Using the Magic Eraser

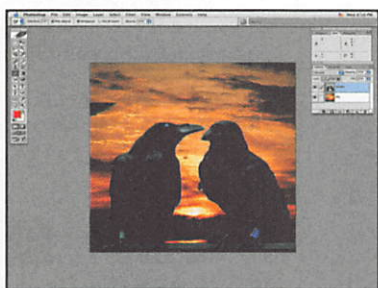
The Magic Eraser is a great tool for separating an object on a layer from its background



1 First the sky image was opened, and then the ravens image was opened. The ravens image was dragged and dropped into the sky image as a new layer. Because we want the ravens to appear as though they're sitting against the sky on the underlying layer, we need to remove the background from their own layer.



2 The Magic Eraser Tool was selected and the ravens layer was selected. The Tolerance was increased to 40%, Anti-aliased was enabled and the opacity was set to 100%, so that the affected colours would be erased to transparency completely. A green area was clicked on in the background, and immediately the similar pixels, as specified by the Tolerance setting, were erased.



3 Some of the green areas were not erased to transparency because they differed too much from the original colour that was clicked on. So, using the same settings, we zoomed in on the image to find them, and clicked on the different green areas until they were all erased to transparency. After that, the only background left on the layer was the dark corner in the upper-left.



4 This dark area contained greens and blacks, so we increased the Tolerance to 100 to make sure that these different colour ranges would be affected. We enabled the Contiguous option so that only adjacent pixels would be erased. Because the Tolerance is set so high, if this option wasn't enabled, the ravens would be affected. We clicked on a colour in the target area to erase it all.



Opacity and compositing

The Opacity option for the Magic Eraser really helps the tool lend itself to creative compositing uses. Try erasing different areas of different layers to different degrees of transparency, using varying opacity settings. Then try varying the blending modes of those layers to achieve artistic compositing effects.



Eraser shortcuts

Typing [E] on the keyboard will access the Eraser Tool. Whichever specific eraser was last employed from the Eraser Tool options will be selected. Holding down the [Shift] key and typing [E] enables you to toggle between the three options.

Auto Erase

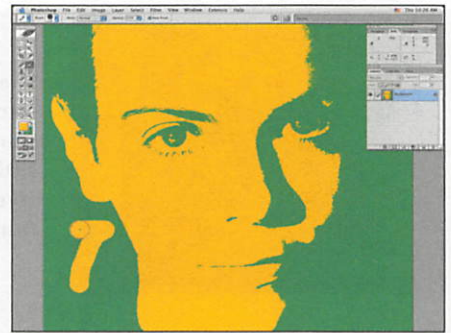
Replace areas of your images containing foreground colour with background colour



Sampling foreground colour

There's a quick way to sample different foreground colours while using the Pencil Tool's Auto Erase function. With the Pencil Tool selected, hold down the [Alt/Option] key to temporarily access the Eyedropper Tool. Clicking with this tool anywhere in the image sets the foreground colour. Releasing the [Alt/Option] key takes you back to the Pencil Tool.

The inclusion of the Auto Erase function in the Pencil Tool options rather than the Eraser Tool options seems a little odd. However, if you look it up you'll find a unique erasing tool that's sensitive to underlying colour. The way it operates is simple. When you click, the tool analyses the colour under the centre of the cursor. If the colour under the centre of the cursor when you begin to drag is the foreground colour, then your stroke area is erased to the background colour. If the area in the centre of the cursor



The lack of any sort of Tolerance setting makes the Auto Erase option best suited to images or areas of high contrast

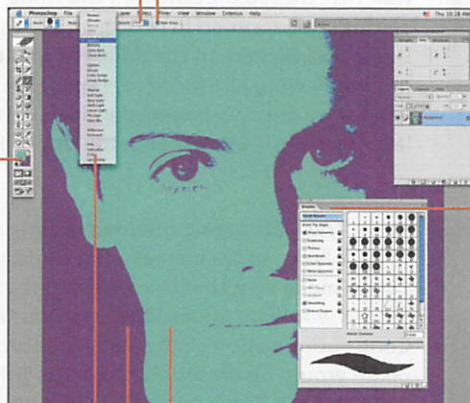
doesn't contain foreground colour, then the resulting stroke will erase to the foreground colour.

AUTO ERASE FUNCTIONS AND OPTIONS

The Opacity setting lets you vary the opacity of the foreground or background colour that's added by the stroke as you erase.

Choose your foreground and background colours from the Color Picker, or use the Eyedropper to sample them from within the image.

Choose a blending mode from the list to change the way that the Pencil's Auto Erase option blends with the colour of underlying pixels.



Turn the Auto Erase option on or off here. When it's disabled the Pencil reverts to its standard working mode.

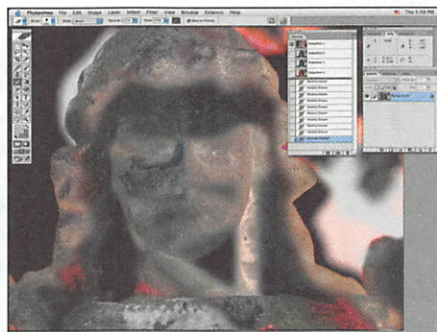
Choose from a large selection of preset brush tips and dynamic functions that are offered within the Brushes palette.

The results of Auto Erase will be most visible and most pleasing in images of high contrast and limited colour.

Erase to History

Use this option to erase to any history state, or to a saved snapshot of your image

Depending upon which erasing tool or function you employ, you can erase to transparency or background colour in a variety of ways. However, there's one more option that you should become acquainted with in the Eraser Tool options: the Erase to History option. This option can be found in the tool options bar when you select the Eraser Tool. When you enable it, the behaviour of the eraser changes dramatically; instead of erasing to transparency or colour, it erases to a specific state or snapshot. As with History Brushes,



Interesting effects are achieved in a single image by using a number of different history states or snapshots with Erase to History enabled

you can create interesting results by purposely creating history states to use as sources when erasing.



History toggle

When you're using the Eraser Tool in any of the three modes you can temporarily enable the Erase to History option by holding down the [Alt/Option] key. This will allow you to erase to your specified state or snapshot in the History palette.

ERASER OPTIONS

- ❑ **THREE DIFFERENT** modes for the Eraser are available in the tool options bar: Brush, Pencil and Block. The Block method really isn't necessary when you have the ability to use the Brush or Pencil tools.
- ❑ **OPACITY** allows you to specify the strength of the erase. A lower setting will only partially erase pixels in your image. When you use the Block mode, the opacity option isn't available.
- ❑ **BRUSH MODE** allows you to access the flow setting, which controls how quickly the erase is applied by the brush. This mode also allows you to access the Airbrush function in the tool options bar.
- ❑ **BRUSH TIP** presets, as well as many other brush functions included within the Brushes palette, are available when you use either the Brush or Pencil Eraser mode. All of the Brushes palette options are greyed-out when you're using the Block mode.



Changing opacity

When you're using the Pencil or Brush eraser modes, there's an option to alter the opacity of the Eraser in the tool options bar. A quicker way than using the slider or highlighting the text field is to simply type in the setting you want using the number pad on your keyboard.

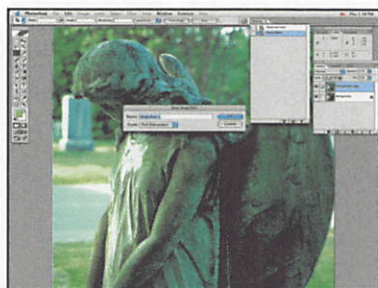
Creative erasing techniques

Test drive the Erase to History function and see the potential of erasing with different options



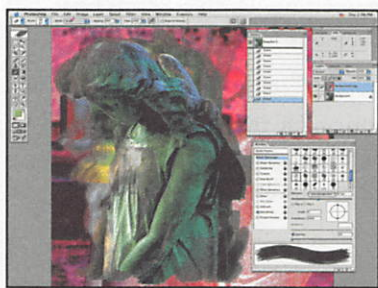
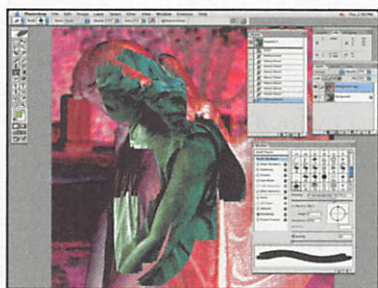
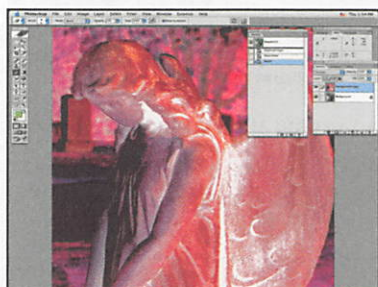
Right-click Block

When you're using the Block Eraser you can access the Mode options without having to use the tool options bar. This can be handy if you're working with the palettes hidden. Just right-click anywhere on the canvas and a pop-up menu will appear with the three different mode options.



Brush or Pencil presets

When you're using the Eraser Tool in Brush or Pencil mode, try right-clicking on the canvas area ([Control]+click on a Mac). You'll find that this is a shortcut to the Brushes Preset Picker that's normally located at the left-hand side of the tool options bar.



1 Here the background layer was duplicated using the Duplicate Layer option in the Layers palette menu. Then Image > Adjustments > Photo Filter was selected. The Underwater filter was used with a dense setting, preserving the luminosity. This filter effect was applied on the duplicated layer. Then, using the History palette menu, a new snapshot was created.

2 Next, Image > Adjustments > Invert was selected, inverting the image on the selected layer. The Eraser was selected from the toolbox and the Erase to History option was enabled in the tool options bar. The snapshot was specified as the Eraser source in the History palette.

3 The image was flattened in the Layers palette. Then, in the tool options bar, the Eraser was set to Brush mode and the Brushes palette was opened. In the Brushes palette, a large custom brush tip shape was selected from the presets. With the Eraser opacity set to 100, a few strokes were painted in the image, erasing those areas to reveal the specified snapshot in the History palette.

4 The opacity was reduced and some surrounding areas were erased using small strokes. Then the Erase to History option was disabled and a different brush tip preset was selected. Again, with a reduced opacity setting, some areas were erased using small strokes. But, because the Erase to History option is disabled, the Eraser erases to reveal transparency, exposing the layer underneath.

The Background Eraser

Use this to create knockout effects with all the convenience of using the Brush Tool

The Background Eraser Tool is quite similar to the Magic Eraser Tool in certain ways. Like the Magic Eraser, it erases areas of sampled colour to transparency; however, it differs significantly in how it does the job. This tool is more brush-orientated, and working with it is a lot more like painting with the Brush Tool than selecting ranges of colour with the Magic Wand Tool. Most users will prefer this tool because it offers a feeling of control that the Magic Eraser seems to be lacking. The centre

of the Background Eraser brush is called the Hot Spot, and is represented on-screen by a crosshair which is directly in the centre of your brush tip. When you click in the image, the brush tip samples the colour beneath the Hot Spot and, as you drag, the sampled colour is erased from the areas that your brush passes over. The tool also performs its own particular brand of colour extraction from edges, so that if your layers are dragged into or pasted into another image, there won't be any halos.



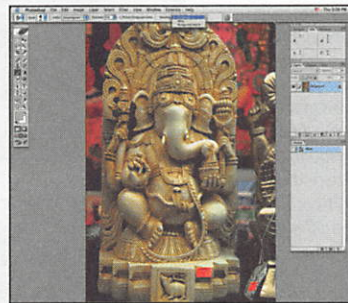
Protect Foreground Color option

When using tools that erase ranges of colour things can get out of hand quickly, and you can find yourself erasing areas by accident. There's a feature in the tool options bar that may be helpful in preventing this. The Protect Foreground Color option in the tool options bar, when enabled, prevents any areas that match your foreground colour in the toolbox from being erased.

HOW DOES IT WORK?

A variety of options control the Background Eraser's behaviour

Colour is sampled using one of three options from the tool options bar. Continuous samples colour continually as you drag. Once used only the first colour clicked on, and background swatch only replaces the current background colour. The Tolerance setting affects what colours under the brush are erased based on their similarity to the sampled colour. There are three modes for limiting erasing; Discontiguous erases the sampled colour under the brush wherever it occurs, while Contiguous only affects areas of sampled colour that are connected. The Find Edges option is designed to preserve the sharpness of edges as you erase.



The Background Eraser's Limits and Sampling options are accessed via two separate pull-down menus

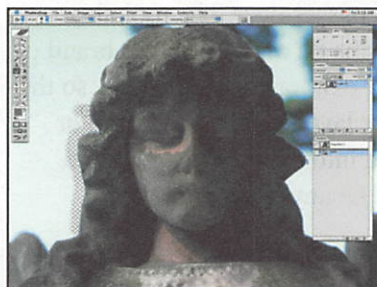
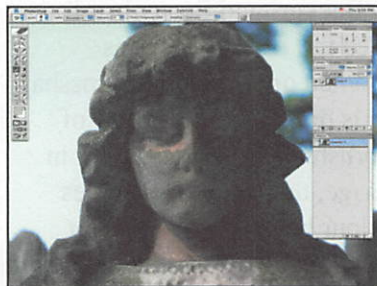
Erasing to transparency

Create knockout effects on your layers, and repair any blemishes caused in the process



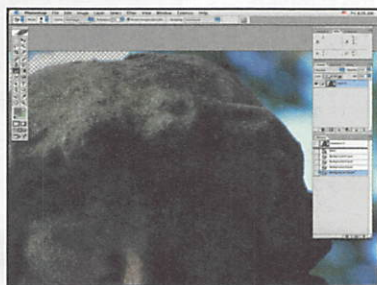
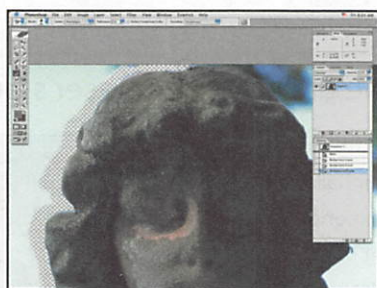
Stroking Paths

The Paths palette menu offers the option to stroke existing paths and path components using a variety of tools. The Background Eraser is included within this list. Try drawing a loose path around an object on a layer and then stroke the path with the Background Eraser to create a knockout effect.



Eraser pressure

Like the Background Eraser Tool, the Eraser Tool allows you to take advantage of pressure sensitivity when using the Brush or Pencil mode. However, you won't find any options in the preset picker. You'll need to direct your attention to the Brushes palette, and explore the variety of jitter control options for the different dynamic functions.

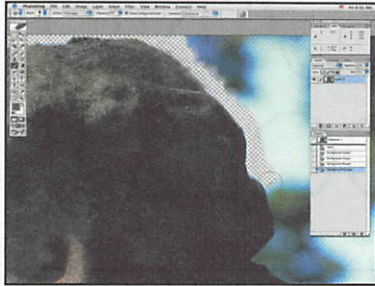


1 We're going to extract this statue from its background. First off, we'll select the Background Eraser Tool, but before we start to erase anything we're going to take some precautionary measures against things going awry. In the History palette, we click on the Create New Snapshot button to take a snapshot of the image in its current state and store it in the History palette.

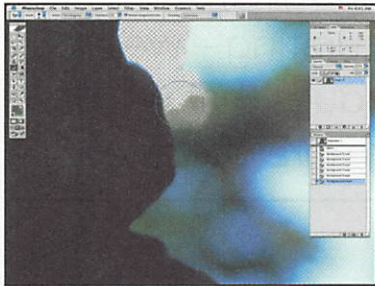
2 Find Edges was chosen as the Limits option because we're first going to erase along the left edge of the statue. The Tolerance setting was left at the current setting of 32, and the Sampling method was set to Once, so only the first colour sample clicked on is used in a single stroke. The white area to the left of the statue was clicked on, and the Background Eraser was dragged upwards.

3 Now, as we get closer to the top of the image, you'll notice that there are other colours in the background to erase besides white. The sampling mode is changed to Continuous to sample the variety of colours that will appear under the Hot Spot as we go. Now we click and drag to erase the area of the background near the top-left of the head.

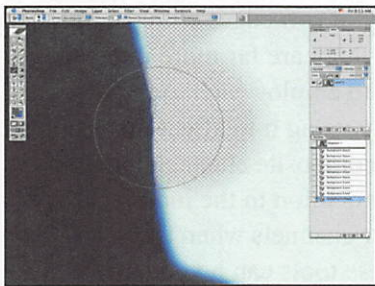
4 As our brush is dragged over some of the greener areas of the background, sampling and erasing them, some of the greener areas in the statue itself are erased because the colours are so similar. This isn't a big problem because we're going to use the snapshot later to fix it. However, to help prevent this, enable the Protect Foreground Color option in the tool options bar.



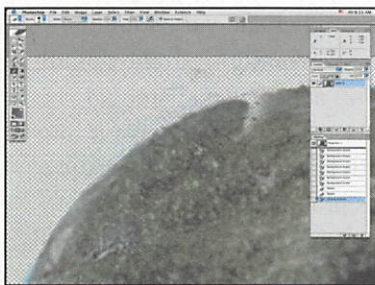
5 Holding down the [Alt/Option] key allows us to temporarily access the Eyedropper Tool. With the Eyedropper selected, we click on a grey area of the statue near its edge to sample that area as a foreground colour, thus protecting it from being erased. Then we click and drag to erase the background from around the right-hand side of the head.



6 Again, a little bit of the statue is erased as well. We can only protect a single colour at a time, and the statue is made up of many subtly-different colours. The current Limits mode is leaving a slight halo of blue around the statue, so we're going to change it to Discontiguous. The area we're erasing now is getting closer to the statue colour, so the Tolerance setting is reduced to 15.



7 We continue to erase around the edges of the entire statue, zooming in on areas where we notice halos. By zooming in very close, we can see that the halos are made up of bands of varying colours. Erase them methodically, moving the Hot Spot over each area and clicking to erase them in turn. This method involves a lot more clicking, but does a very thorough job.



8 Now to repair areas that were unintentionally erased. We select the Eraser, and enable the Erase to History option in the tool options bar. Then, from the Brushes palette, we select a small brush with a slightly soft edge. In the History palette, we specify our snapshot as the source state. Then we use the eraser to erase the areas we want to repair, taking care to stay away from the background.



Toggle sizes

When you have a brush tip selected you can use the square brackets on the keyboard to incrementally increase or decrease the size. Brushes under 10 pixels wide are adjusted in increments of one pixel; brushes larger than 10 are adjusted in increments of 10; brushes larger than 100 are adjusted in increments of 25; brushes larger than 200 in increments of 50 and brushes larger than 300 in increments of 100.



Background Eraser pressure

If you're a graphics tablet user, there are a couple of nifty options available to you when using the Background Eraser Tool. With this tool selected, open the Brush preset picker in the tool options bar. At the bottom of the palette you'll notice two pull-down menus, one for Size and the other for Tolerance. Both can be set to Pen Pressure or Stylus Wheel.

Chapter 10

SATURATION, EXPOSURE AND FOCUS TOOLS

In this chapter...

- ☐ Use the focus tools within individual colour channels
- ☐ Get creative with layer blending modes and exposure tools
- ☐ Explore a variety of focus tool blending modes
- ☐ Learn how layer blending modes can help you compensate for the lack of a Use All Layers function
- ☐ Understand when to saturate and when to desaturate

Sharpening and softening, dodging and burning, fading colour or saturating – we'll show you a variety of techniques that will have you performing these tasks more effectively

The secret to getting the most from the focus, exposure, and saturation tools lies not only in understanding how each tool works, but also in developing a method to work with these tools in a flexible and non-destructive manner. In all cases, layers play an essential role. So you must understand how to properly use the tool options that are designed to work with layered files. And, when those tool options aren't supplied, you need to get innovative.

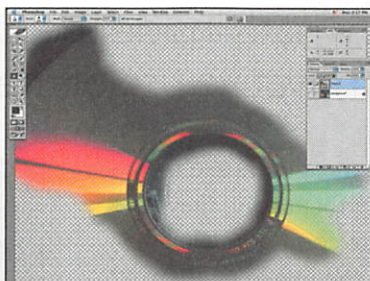
Focus tools

Whether you're softening parts of your image with the Blur Tool, smearing pixels around with the

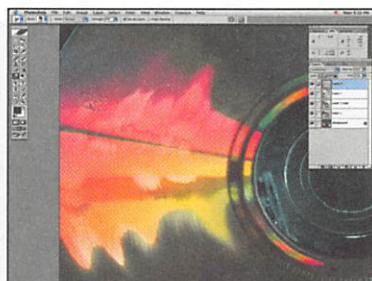
Smudge Tool or increasing the clarity of soft edges with the Sharpen Tool, there are far more interesting ways to employ each tool than simply using it to affect the pixels in your composite channel. Directing your attention to the individual colour channels when using any of these tools can help you remedy specific problems within your images and create very subtle effects. Deviating from the default blending mode when using a focus tool can instantly transform it into a creative tool, making it artistic as well as practical. And getting into the habit of employing the Use All Layers option will enable you to



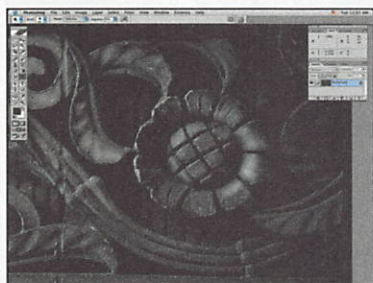
Page 100 Use the focus tools to alter data in individual colour channels



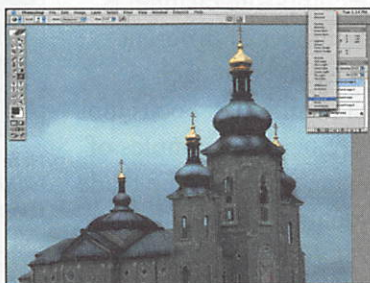
Page 102 See the effects of the Blur Tool's Use All Layers function



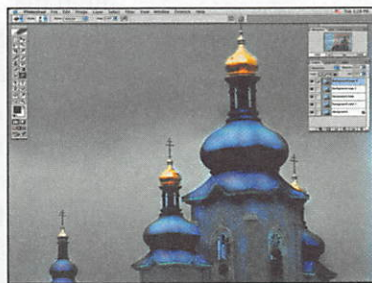
Page 102 Combine the Smudge Tool's Use All Layers option with blending modes



Page 103 Understand how the exposure tools' range settings work



Page 105 Compensate for the exposure tools' lack of a Use All Layers function



Page 105 Alter a file's saturation while preserving the original image

perform adjustments to files while preserving your original imagery.

Exposure tools

As with conventional photographic processing, Photoshop includes a couple of tools that will let you affect the exposure of specific areas of your image. Again, the secret to mastering these tools is in using them to apply the desired effects while at the same time preserving your original images, and retaining the ability to edit the effects that you apply later on. Perhaps the most effective method of working with exposure tools is, as with other tools, to combine them with layer

options. Explore what layers offer in terms of functions such as blending modes and masks, and combine them with the various Dodge and Burn options to create stunning, non-destructive exposure effects. Also, developing an understanding of the various range settings and when to use them is essential for creating effective and believable exposure changes. The Sponge Tool allows you paint in your image files to increase or decrease saturation in any area. Getting creative with layer blending mode options will allow you to compensate for the absence of a Use All Layers option for this tool.

Focus tools and channels

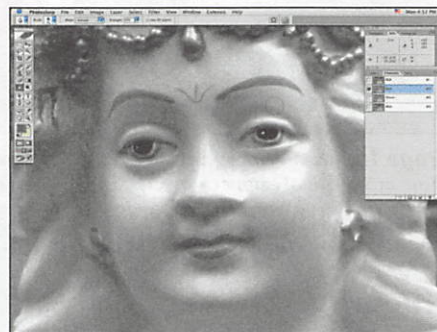
Explore what's inside the Channels palette for more innovative use of the various focus tools



Focus tool keys

Typing [R] on the keyboard will access the focus tools from the toolbox. Whichever of the three focus tools you used last will be selected. Holding down [Shift] and typing [R] will allow you to toggle through the tools.

When most users see the need for a focus tool, they're looking at the composite channel displayed in the image window. However, it's important to bear in mind that the composite channel is made up of a number of different colour channels, and that each channel's data is different. Focus tool adjustments are perfect examples of the type of changes that can be made within individual colour channels. For instance, if you want to smudge or blur the noise in an area of your image, the noise will often be most



Here the **Blur Tool** was used to blur noise within the **Red channel** only, by selecting it in the **Channels palette**

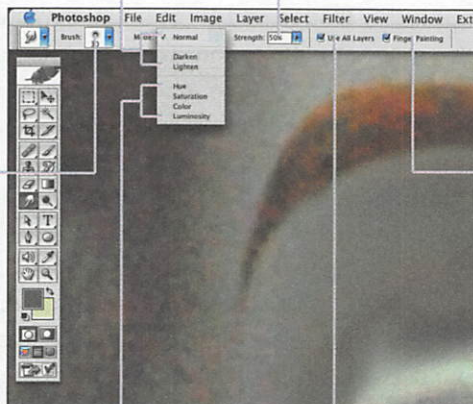
evident in a single channel, so you'll want to perform your smudge or blur stroke in that channel only.

FOCUS TOOL OPTIONS

The first three blending modes are all that are available to you when working in individual colour channels with any focus tool.

All brush presets are available when using any exposure tool. You also have all of the **Brushes palette** functions to choose from.

When you're working in the composite channel all of the blending modes, including the last four, are available to you.



The **Strength** option lets you control how strong the effect of your stroke is when you paint with any of the focus tools.

The **Finger Painting** option is only available with the **Smudge Tool**, and will use the current foreground colour at the start of each stroke.

When **Use All Layers** is enabled, data is sampled from all visible layers and used to create the effect of your new stroke.

Focus tools and layers

Whether you want to sharpen, blur or smudge, the advantages of multiple layers are many

As with many other tools, layers play an integral role in getting the most out of the various focus tools. Whether you choose the Blur Tool, the Smudge Tool or the Sharpen Tool you'll notice that in the tool options bar there's a Use All Layers function. Enabling this function allows you to use image data from all visible layers. Again, the Use All Layers function makes it possible to edit your image on a layer while preserving the image content on underlying layers. This is a very useful facility, as it

affords you the ability to change your mind when it comes to editing the effect later on. You can mask the layer contents, reduce the opacity, or even alter the blending mode whenever you like. Building up layers is an excellent way to work with the focus tools. Try creating all of your Smudge strokes on one layer, your Blur effects on another, and your Sharpen strokes on another still. Then you can add to, edit, or delete any of the individual focus effects while leaving the others intact.



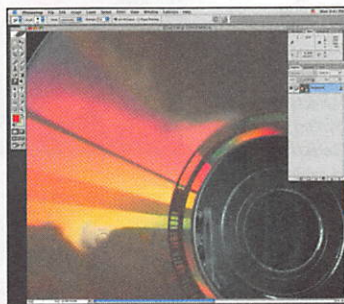
Focus tool pop-ups

If you right-click anywhere on the canvas when you have any focus tool selected, the Brush preset picker menu will pop-up. If you hold down the [Shift] key while you click, you'll get a pop-up menu that enables you to change your current blending mode, as well as edit the brush.

USING DIFFERENT MODES

Achieve focus tool results that go beyond the obvious

You can create strange and artistic results when you start to vary the mode settings when using the focus tools. For most practical uses the mode of choice is Normal. However, there are a few other modes worth checking out. You've read through what each mode does elsewhere in this Focus Guide, so we won't go into them in detail again, but there are some that stand out. Using Lighten or Darken with the Blur Tool is a good way to increase soft highlights and shadows by blurring them, and thus blending them with underlying imagery. Using Luminosity to smudge reflected colour on metal surfaces produces a nice glow effect.



Using the Luminosity mode when smudging the yellow area on to the grey of the CD produces a nice effect

Working with focus tools

You can work wonders with the focus tools by combining them with other functions



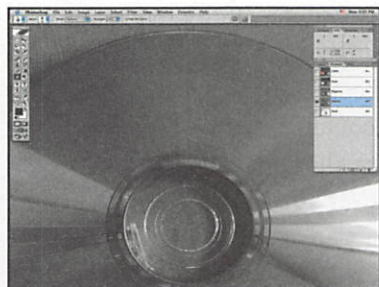
Focus tool strength

You can adjust the strength setting for any focus tool via the slider or numeric field in the tool options bar. However, there's a shortcut. While you have any focus tool selected, enter the strength setting you want using the keyboard. This automatically sets the strength without you having to go anywhere near the tool options bar.

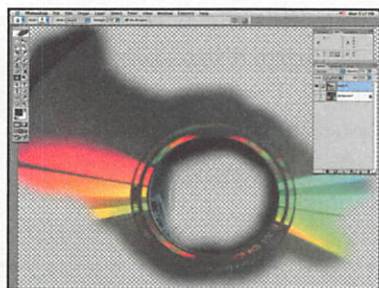


Toggle through channels

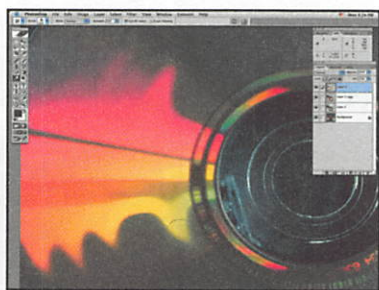
There are keyboard shortcuts for toggling through your channels in Photoshop. For instance, in RGB mode, typing [Control]+[1] selects the Red channel, typing [Control]+[2] selects the Green channel, typing [Control]+[3] selects the Blue channel, and typing [Control]+[4] selects the Composite channel. Mac users substitute [Command] for [Control].



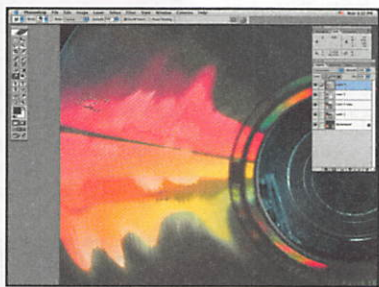
1 This image has some unsightly noise in the silver areas of the CD. In the Channels palette, all channels are turned off one by one, until it's apparent that the noise is most pronounced in the Yellow channel. The Blur Tool is used within this channel, with a Normal blending mode and a strength setting of 100, to blur the noisy areas.



2 Then the composite channel is selected in the Channels palette. In the Layers palette, a new layer is created. The brush size of the Blur Tool is increased greatly and then, on the new layer, the tool is used to blur some of the coloured areas of reflected light. By turning off the underlying layer, we can see that the blur effect is created from visible image data on the new layer.



3 The blur layer is duplicated and the blending mode of the duplicate layer is changed to Soft Light to snap up the colour. Another new layer is created and the Smudge Tool is selected. The strength is reduced to 50% for a less drastic effect and, with the blending mode set to Normal, some of the coloured streaks from the underlying layers were smudged on this new layer.



4 Another duplicate layer is created and the blending mode of this layer is changed to Luminosity. A custom brush tip is selected from the Brushes palette and its diameter is increased. The Smudge Tool is used again on the Luminosity layer – this time the result is brushed, luminous strokes.

Exposure tools and layers

The absence of a Use All Layers option doesn't mean layers and focus tools can't work together

It's easy to get into the habit of reaching for the Use All Layers function when you want to perform changes but leave original layers untouched, but some tools, such as the Dodge and Burn tools, don't have a Use All Layers option. However, you can still use these tools in combination with layers to produce fully-editable layered files while preserving your original image. You need to get into the habit of duplicating your source layer when you wish to alter it using either of the exposure tools; choosing the right

blending mode for the duplicated layer is essential for keeping only the exposure effects visible on it. For instance, if you wish to perform any dodging, switch the mode of your layer to Lighten so that only the lighter areas that you dodge will be visible against the underlying layer. Alternatively, a blending mode of Darken can be effective when using the Burn Tool on your duplicate layer. Using a Luminosity layer blending mode allows you to perform both Dodge and Burn functions on the same duplicated layer.



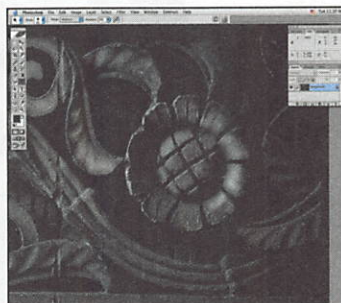
Range

If you right-click ([Control]+click on a Mac) on the canvas when using either exposure tool you'll see the Brush Preset picker pop up. However, if you hold down the [Shift] key when you right-click you'll be able to select any of the Range settings from the menu.

UNDERSTANDING RANGE OPTIONS

Knowing the appropriate range setting for a task is essential

Whether you're lightening with the Dodge Tool or darkening with the Burn Tool, you'll need to develop an understanding of what the Range option does. The range settings for the exposure tools control which ranges within your images you'll be able to affect. In the tool options bar you'll see that the Range pull-down menu offers three options: Shadows, Midtones and Highlights. The Shadows setting will only allow the Dodge or Burn tools to affect the dark areas of the image. Alternatively, the Highlights setting will only allow the tool to affect light areas, and using the Midtones option will only affect areas that fall within the middle range of greys.



Using the Midtones range setting allows us to paint carelessly, while dodging the raised areas

Exposure tool techniques

Alter the exposure of specific areas in images by combining exposure tools and layer options



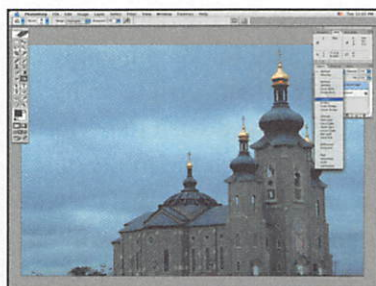
Exposure and pressure

The Exposure tools allow you access to many of the dynamic functions within the Brushes palette, which means that you can use the various Jitter control settings to specify Pen Pressure, enabling you to control the effect of exposure tools using a pressure-sensitive tablet.



Layer masks

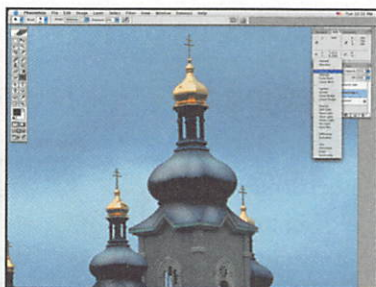
As you build up layers using this method to alter exposure, sometimes varying the opacity of your layers doesn't give you enough precision in controlling the effect. Remember that, because you're working with layers, you can use layer masks to remove any unwanted areas from your duplicate layers at any time.



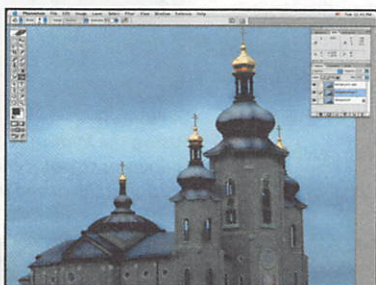
1 The first step here is to create a duplicate of the background layer. In the Layers palette, we grab the background layer icon and drag it on to the 'Create a new layer' button at the bottom of the palette. Then we select the duplicate layer and change its blending mode to Lighten.



2 Next we select the Dodge Tool from the toolbox. In the tool options bar we select Midtones as the range setting, and set the exposure to around 50%. Then we open the Brushes Preset picker and select a large soft brush tip with a diameter of around 60 pixels. We use the Dodge Tool to lighten parts on the blue areas of the roof and towers.



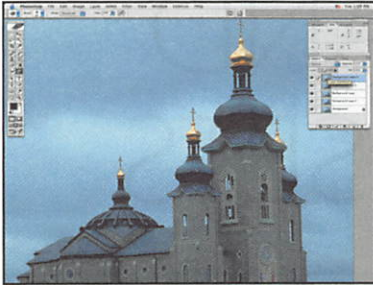
3 The effect is a little drastic, so we reduce the opacity of the layer to about 70%. Again, we duplicate the original background layer then drag it up in the Layers palette so it sits just underneath our first duplicate layer. We change the blending mode to Darken. If this layer were sitting above the layer containing our Dodge effects it would be hidden by the contents of that layer.



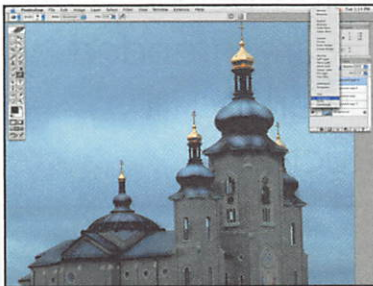
4 The dark areas of the image look a little pale, so we're going to burn them to increase the overall contrast. We select the Burn Tool, set the range to Shadows and increase the exposure to 60%. Now we paint over the dark areas on our newest layer to burn them. This is an excellent way to alter exposure in images while leaving original files intact.

The Sponge Tool

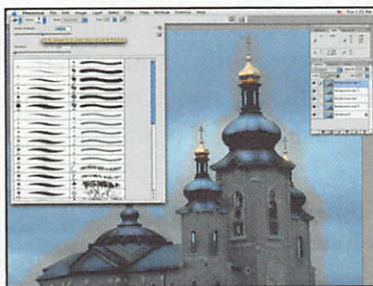
You can alter saturation with the Sponge Tool in a similar way to the Dodge and Burn tools



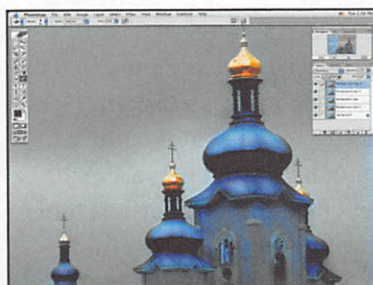
1 You can use either of the Sponge Tool options to intensify or dilute the colour of an area. As when dodging and burning, you can compensate for the lack of a Use All Layers function by creating new layers specifically for this tool, using the correct blending mode. Here, we create a duplicate of the original background layer and drag it to the top of the stack of layers in the Layers palette.



2 The current Normal blending mode obscures all of the underlying layers with our exposure effects on them, so we select a Saturation blending mode for this layer in the Layers palette. This mode works by using the luminance and hue of underlying layers, and showing only saturation changes on this layer.



3 Next we select the Sponge Tool and select a small, soft brush from the Brushes Preset picker. We select Desaturate as the mode and leave the flow set to 100. Then, on the saturation layer, we paint over the sky in the areas that surround the church. After we've painted a desaturated border around the church, we increase the diameter of the current brush in the Preset picker.



4 We use the larger brush to paint over the rest of the sky with the Sponge Tool, desaturating it completely and making it appear as a greyscale image. Next, we reduce the brush diameter in the Brush Preset picker and switch the Sponge Tool mode to Saturate. We paint over areas of the church to increase their saturation, and make them stand out from the background.



Toggling tools

The Dodge, Burn and Sponge tools share the same button in the Photoshop toolbox, and instead of returning to the toolbox every time you want to switch tools you can use a keyboard shortcut. Holding down the [Shift] key and pressing [O] toggles through these three tools.



Brushes palette options

The Dodge, Burn, and Sponge tools operate as paint tools in the way that they make use of the Brushes palette. Try deviating from the usual round brushes by using a variety of custom brush tips, and exploring the various brush dynamics, to create interesting effects.

Chapter 11

NAVIGATION, VIEWING AND TOOL PRESETS

In this chapter...

- ☐ Learn keyboard shortcuts to speed up panning and zooming
- ☐ Zoom and scroll in not just one, but all open windows instantaneously
- ☐ Discover the Crop Tool's *Front Image* and *Clear* options
- ☐ Learn to create tool presets and manage preset libraries
- ☐ Experiment with rotation and perspective image cropping

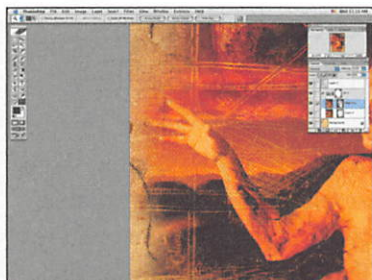
In this chapter we'll outline a number of functions and techniques that are intended to make the time you spend working in Photoshop much more productive

The Navigator palette is an excellent tool for letting you know what part of an image you're currently viewing, and what lies outside of the visible area. Getting acquainted with the Navigator palette and its functions can help you to improve your efficiency when it comes to zooming or scrolling as you're working on your images. You'll have used the zoom and scroll functions so often that by now they'll have become second nature, but learning the various tricks and shortcuts for zooming and scrolling within single or multiple image windows will help you to go about your work even faster. The

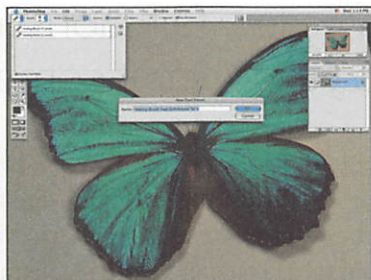
way that you view your image windows in Photoshop is determined by your screen mode setting. There are three different screen modes, and each one is useful for particular purposes. Learning the quickest way to jump from one mode to another will help to save you valuable time in the long run.

Tool presets

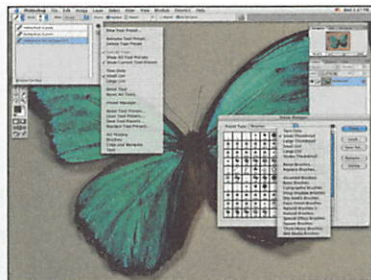
Sometimes manipulating the tools in Photoshop can be a task in itself. But, with a combination of experimentation and perseverance, you can customise the various tools to suit your specific needs. And when you've customised a tool to



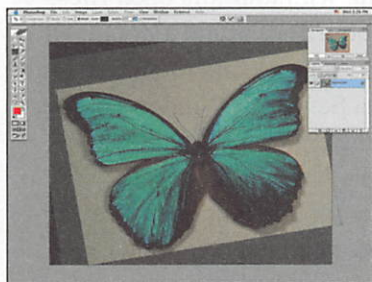
Page 108 Explore a few functions and techniques for viewing files



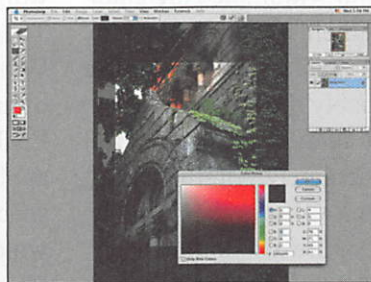
Page 109 Learn about the options available within the Tool Preset picker



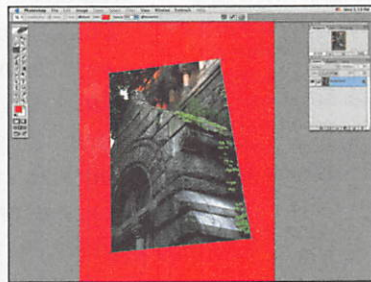
Page 109 Find out more about managing different presets



Page 110 The Crop Tool is capable of more than simple rectangular crops



Page 111 Learn to enable or disable the Shield, and alter its opacity and colour



Page 111 The Crop Tool's Perspective option can remedy keystone distortion

get it working in exactly the way you want it, you can then save it as a preset. There are a variety of tools available within Photoshop that enable you to save specific presets; many presets can be saved in library files that can be loaded again at a later date, or shared with other Photoshop users. Learning how to create, manage and work with these presets and libraries is essential when it comes to speeding up your day-to-day workflow.

Cropping

What's the big deal about cropping, you might ask? Granted, on the surface cropping images might

seem like a pretty straightforward operation. However, when you start to explore the different options for cropping in Photoshop you'll quickly realise that there's a whole lot more to the process than just defining square or rectangular crops. Rotation and perspective options are available, and when you delve a little deeper into the options that the Crop Tool provides you'll see that it's possible to set size ratios and specific resolution settings. There are also methods for adjusting the on-screen display of the Crop Tool while it's in use, so that you can see clearly how your crop will affect the current image.

Viewing and navigating

Exploring a few functions and techniques will help you when it comes to viewing files



Zoom out

When you select the Zoom tool from the toolbox, by default it's set to zoom-in. In the tool options bar you can select the zoom-out option, but a quicker method is to press the [Alt/Option] key. This will temporarily switch the tool to zoom-out mode.

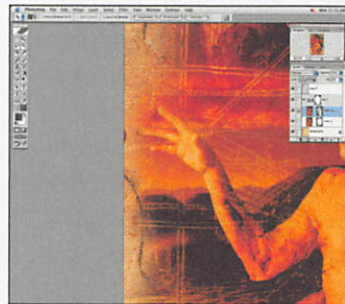
The Navigator can save you reaching for the Zoom or Hand tools when you want to get around within your images. You can scroll quickly and easily by dragging the red box around within the Navigator window, and there are three quick ways to control zooming as well. The slider is probably the most useful method, as it allows you to zoom to any size immediately. Alternatively, you can enter a value in the numeric field, and there are also buttons on either side of the slider if you want to zoom in and out incrementally.

In addition to the Navigator, there are a couple of functions available in the tool options bar when you're using the Zoom or Hand tools that will prove helpful when it comes to working with multiple open files. The Zoom Tool offers a Zoom All Windows option and the Hand Tool offers a Scroll All Windows option. Enabling either of these functions applies what you do with the specific tool in your main file window to all open windows in Photoshop, copying your zoom amounts or scrolling exactly.

TIME-SAVING TECHNIQUES

Toggle through navigational tools and screen modes fast

When you're using any tool in Photoshop, you can toggle to the Hand Tool for quick scrolling by holding down the spacebar on your keyboard. Holding down the spacebar and the [Control] key ([Command] on a Mac) at the same time will give you temporary access to the zoom-in tool. Holding down the spacebar and the [Alt/Option] key at the same time will give you temporary access to the zoom-out tool. Near the bottom of the toolbox, you'll notice that there are three screen mode options: Standard Screen Mode, Full Screen Mode with Menu Bar and Full Screen Mode. Use the [F] key to toggle between modes.

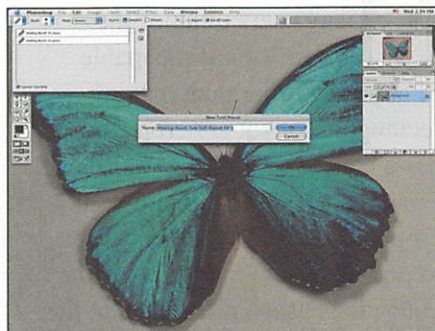


Photoshop CS users can move the edge of the canvas into view using the Hand Tool when in either full-screen mode

Using presets

Save custom tools as presets in libraries, and organise libraries using the Preset Manager

Saving your favourite tool options and settings as presets saves you having to set a tool up each time you want a specific combination of settings. The Brushes palette and the Gradient Editor are good examples of areas within Photoshop where new presets can be added to an existing list; the entire list can then be saved as a library file. Similarly, the Tool Presets palette is where you can save your current tool options as a preset and load, edit and create preset libraries. The Preset Manager, located under the Edit



Choosing New Tool Preset from the Tool Presets palette menu allows you to name and save your current tool options as a preset

menu, is the central location from where you can access and manage presets for all tools and functions.



Library file location

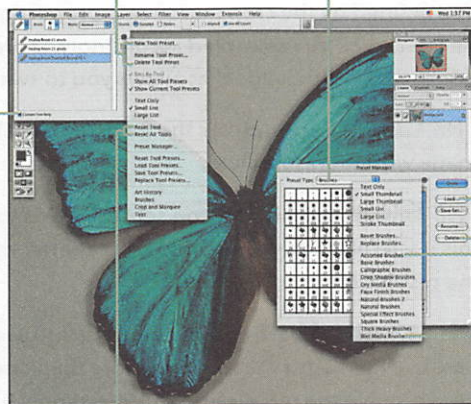
You can save a preset library file anywhere you like on your hard drive. However, if you wish to see it in the Preset Manager palette menu list, you'll need to place it in the appropriate presets subfolder inside the Photoshop program folder.

THE PRESET MANAGER AND PRESET PALETTES

The various preset picker palette menus allow you to add your own tool presets, and you can rename or delete existing presets.

You can view the available presets for your current tool only, or the presets available for all the Photoshop tools.

If you alter a tool preset while using it, you can reset it to its original settings using this option in preset picker's palette menu.



The Preset Manager allows you access to all types of presets, whether they're tool presets or presets normally found within specific palettes.

You can add a library to the list, rename and delete individual presets, or create a new library from the current list.

Once you've selected your Preset Type, the palette menu will display all of the available libraries for that type of preset.

Cropping techniques

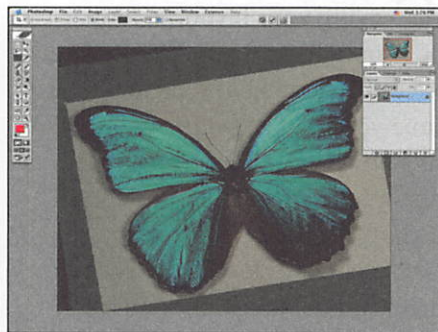
There are options for cropping your images other than basic square or rectangular crops



Cropped selections

You can automatically crop an image based on the area defined by a selection border. Draw a selection and choose **Image > Crop** from the main menu. A rectangular crop is defined by the largest height and width areas of the selection border.

Many users think of the Crop Tool as incapable of anything other than making rectangular or square crops, but it has a couple of tricks up its sleeve. First, it's possible to rotate your cropped area. Use the Crop Tool to draw the crop marquee within your image, then click outside the marquee and drag to rotate it. Press [Enter] to apply the crop and rotate the image. Secondly, you can alter image perspective as you crop. Drag a marquee around the area you wish to crop, then enable Perspective in



When you click and drag outside of the crop marquee the pointer turns into a curved double arrow to indicate rotation mode

the tool options bar. Move the corner handles to define the perspective and press [Enter] to apply the crop.



Unwanted snapping

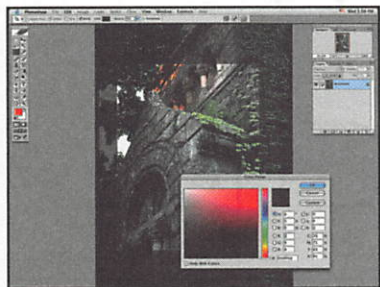
Sometimes a cropping marquee will be hard to adjust because the edges of it will snap to areas such as the edge of the canvas. To remedy this, choose **View > Snap** from the menu; this will uncheck the option and disable the snapping.

CROP TOOL OPTIONS

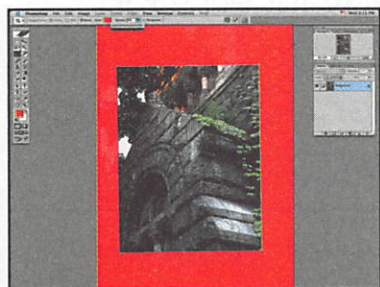
- ☐ **WIDTH, HEIGHT AND RESOLUTION** can be set to ensure that the area defined by the crop marquee is proportionately accurate, and that the image will be resampled accordingly. There's a button between the Height and Width fields that allows you to swap the two settings.
- ☐ **THE CLEAR** button clears the fields, and enables you to crop your image without resampling.
- ☐ **THE FRONT IMAGE** button sets the fields to match the current image. This is useful when you want to crop a series of images to the same size and resolution.
- ☐ **DELETE AND HIDE** options become visible after you draw a crop marquee in images that contain more than one layer. Delete removes any areas outside the marquee area. Hide simply hides them off the canvas so that, if you move a layer later, the contents are still there.

Beyond basic cropping

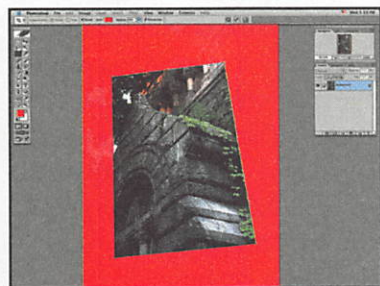
See what the shield does as we crop an image, rotate the crop and adjust the perspective



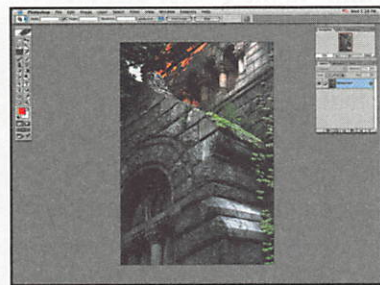
1 The first thing we need to do is to select the Crop Tool from the toolbox. Then, in the image window, we draw a crop marquee around a section of the image. Then we click on Color in the tool options bar to access the Color Picker. Choose a different colour for the shield, something other than the default black.



2 The shield is used to shade the area outside the crop marquee that will be hidden or deleted when we perform our crop. In addition to changing its colour you can enable or disable the shield in the tool options bar, and alter its opacity. Here we've increased the opacity to around 90%.



3 Next we click outside the crop marquee and click and drag to rotate the marquee so that it matches the angle of the image a little better. This image suffers from a slight keystone distortion effect, so we've enabled the Perspective function in the tool options bar. Then we move the handles of the crop marquee individually.



4 When we've made the necessary adjustments to compensate for the keystone distortion we press [Enter] to apply the perspective crop. When you're doing this take care not to move the centre point of the cropping marquee, as it's essential for Photoshop to correct perspective properly.



Keystone distortion

Keystone distortion is the result of photographing an object from an angle, rather than facing it head-on. It's most evident in architectural photos, when a photographer is on the ground outside a building, looking up at it. You can also use the Perspective Transformation option in the Edit menu to remedy keystone distortion without cropping your images.



Nudging the crop

It's possible to move your crop marquee by clicking and dragging inside it. However, if it's subtle movements you're after, use the directional arrows on your keyboard to nudge the crop slightly in a horizontal or vertical direction.

Chapter 12

PUTTING YOUR TOOL SKILLS INTO PRACTICE

In this chapter...

- ☐ Create a 'living statue' using two different images
- ☐ Build up a painterly effect on a series of layers
- ☐ Create a custom shape and use it repeatedly throughout the image
- ☐ Use a customised brush tip with more than one tool

Combine a number of the advanced tool techniques that you've learned to create this highly-conceptual photo-montage that lends itself to further editing by way of its layers

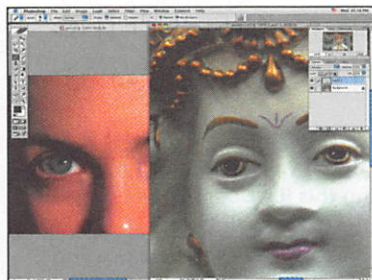
By now you've hopefully learned a whole range of new techniques that will enable you to go beyond the obvious uses of your Photoshop tools, and combine these tools with other functions and features. Now it's time to put some of your newly-acquired knowledge to work. In this chapter we'll walk you step-by-step through the process of creating an original and striking digital illustration.

The image

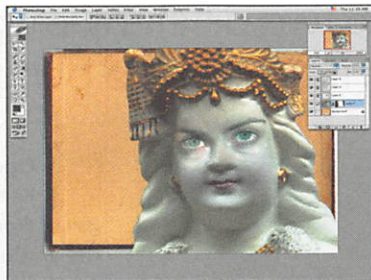
What appears as a supernatural goddess is really an inventive combination of a couple of digital photographs. The main element in

the image is a photo of a statue, and this is combined with the eyes from a photo of a woman to create a strange creature that resembles a living statue. The main background for the image is a desktop scan of a piece of an old hardcover storybook. Not only does this provide a nice, neutral, slightly-textured canvas, but it hints to the viewer that the image has a story to tell. The fish motif was lifted from a piece of fabric that was already present in the statue photo, and the repeated swirling fish motif suggests that there's something water-related in the image; that perhaps the living statue is an incarnation of a goddess

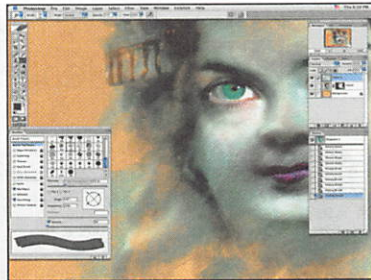
Creating the face



Page 114 Use the Healing Brush to move elements from one file to another



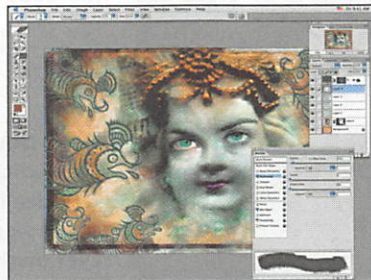
Page 116 Drag a group of linked layers from one file into another file intact



Page 119 Use a customised brush tip to create a painterly effect using history data



Page 120 Use a custom shape in various sizes, colours and blending modes



Page 121 Build up customised brush strokes on a series of layers



Page 121 Use the Blur Tool to soften the focus of image sections and elements

of the sea. All of these combined elements work together to create a highly-conceptual image with much more to it than meets the eye.

The process

Obviously, not every technique that we've covered in this Focus Guide is going to be needed to create the finished image. It's important when working within Photoshop to assess which tools are best suited to producing the desired results. Often, when you're creating an image such as the one in this chapter, you'll use a handful of tools in a variety of different ways. You'll also find yourself making use of similar

techniques as you move from tool to tool. For instance, the same customised brush tip can be used with a variety of different tools.

The method of building up an effect over a series of layers will become evident over and over again in this chapter; as you've seen in the preceding chapters, it's a very useful working method when you're using a number of the painting, healing or focus tools. Another advantage of layers in general is that everything remains editable after the image is complete. You can go back and edit almost every image component and effect without affecting the rest of the image.

Creating the face

We'll use two different images, layers and the Healing Brush Tool to bring this statue to life



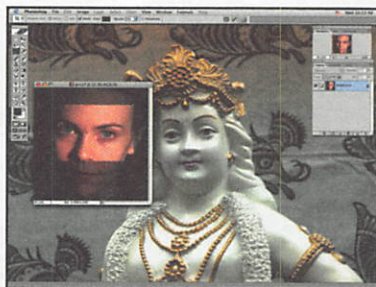
Walkthrough files

All of the image files used in this walkthrough are available on the accompanying CD. Feel free to use them for this walkthrough and any other personal projects you have in mind. Derek Lea owns the copyright for all these photographs, and they're supplied for non-commercial personal training purposes only.

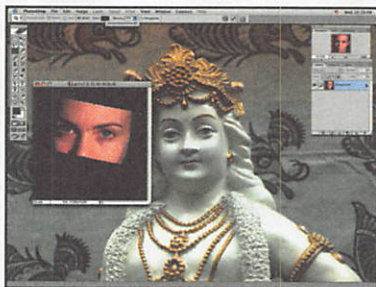


Crop keys

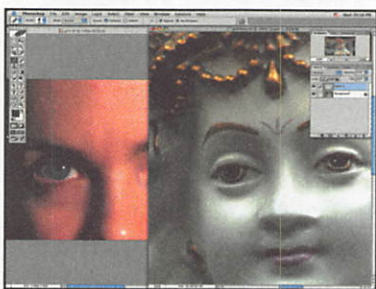
If you hold down the [Shift] key when dragging with the Crop Tool it will constrain the horizontal and vertical axes, creating a square crop marquee. If you hold down the [Alt/Option] key while you click and drag the crop marquee will be created outwards from a central point.



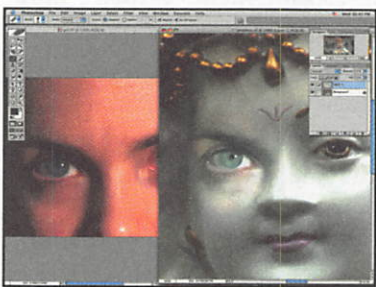
- 1 Open the file goddess.tif from the CD. Keeping this file open, open up the file girl.tif from the CD as well. Look carefully at the angle of the statue's eyes, because you'll want the angle of the woman's eyes to be similar. Select the Crop Tool and draw a crop marquee around the woman's eyes.



- 2 Now rotate the crop marquee by clicking and dragging just outside it. The idea is to crop the image so that the angle of the woman's eyes matches the angle of the eyes on the statue. Increase the opacity of the shield in the tool options bar so that you can concentrate on the eyes, and press [Enter] to apply the crop when you're satisfied.

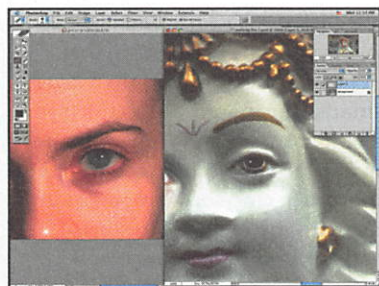


- 3 Create a new layer in the statue image. Select the Healing Brush Tool, and in the tool options bar enable Aligned and Use All Layers. In the Brush Picker, specify a brush diameter of 70 pixels, set the Hardness to 30 and the Spacing to 1. Now hold down the [Alt/Option] key and click on the woman's right eye to define it as the source.

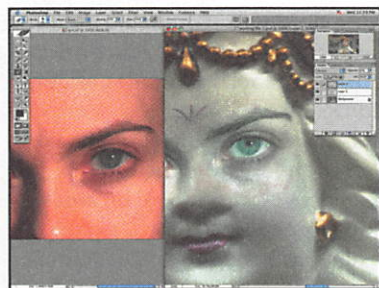


- 4 In the statue image, start painting with the Healing Brush over the right eye of the statue on the new layer. Feel free to use as many strokes as it takes to get the effect right. Because the Aligned option is enabled the original source point that was sampled is preserved until you change it.

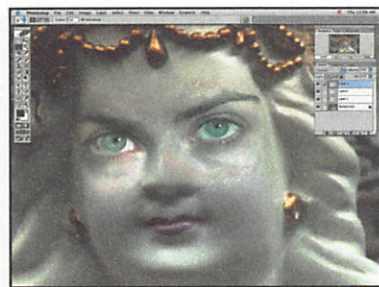
Masking and moving



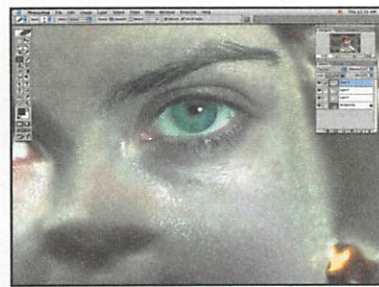
- 5** Select the Hand Tool from the toolbox. In the tool options bar enable the Scroll All Windows option. Then, in the statue image window, click and drag until the left eye is within view. You'll notice that the other file moves too as you scroll. Select the Healing Brush, hold down the [Alt/Option] key and click on the woman's left eye to specify it as the new origin point for the Healing Brush.



- 6** On the same layer in the statue file, paint with the Healing Brush over the left eye. Continue to paint strokes until you're satisfied with the result. Then create another new layer in the Layers palette. On the new layer, use the Healing Brush to paint over the areas of the statue's nose that appear too white. Reduce the opacity of this layer to 65% to soften the effect.



- 7** Close the girl.tif file. Hit the [F] key to switch to Full Screen Mode with Menu Bar. Create another new layer and reduce the size of the current Healing Brush to 30 pixels in diameter. Now, sample an area just above the design on the statue's forehead and paint over the design with the Healing Brush to remove it.



- 8** You'll need to sample from different areas and paint a number of small strokes to achieve a convincing result. Next, use this same method to sample and paint over areas of blemishes and spots within the face on the current layer, increasing or decreasing the size of the brush tip as needed.

**Zooming**

There's a quick way to zoom in and out of your image windows without having the Zoom Tool selected or reaching for any of the zoom functions in the Navigator palette. Just hold down the [Control] key ([Command] on a Mac) and press the [+/-] key to zoom in or the [-] key to zoom out incrementally.

**Beyond the canvas**

By now you know that you have the ability to rotate the crop marquee to alter the angle of your images while cropping, and there will be occasions when parts of the rectangular crop marquee will extend beyond the canvas of your flattened images. If there's no image data beyond the canvas, yet you've included part of this area within your crop, it will be filled with the current background colour.

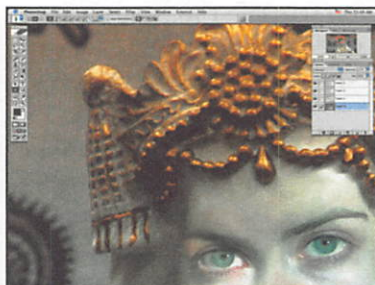
Masking and moving

Use the Pen Tool to define a layer mask, and drag linked layers from file to file

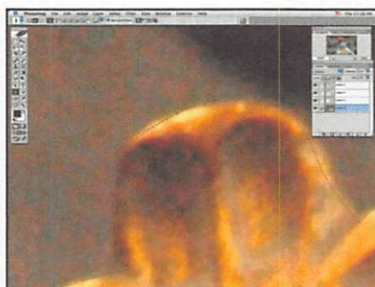


Fit On Screen

There are a few ways in which you can display your entire image at the optimum size to fit on your monitor. Choose View > Fit On Screen from the menu or click the Fit On Screen button in the tool options bar when using the Zoom or Hand tools. However, the quickest way to perform this function is to double-click on the Hand Tool in the toolbox.



1 Double-click the Background layer in the Layers palette and name it; this transforms it from a background into a layer that can be made transparent. Keep the layer selected and choose the Pen Tool. Select the Paths option and 'Add to path area' in the tool options bar. Zoom in close on your image and click and drag with the Pen Tool to start drawing a path around the statue.

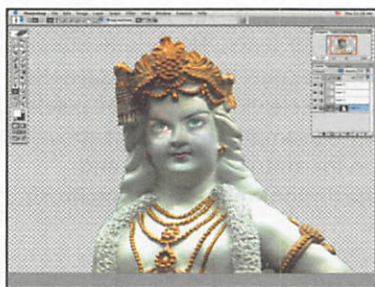


2 Continue clicking and dragging until you get back to your first point. Click on it to close the path. In the tool options bar, enable the Auto Add/Delete option and add or remove points along the path as required. Next, select the Direct Selection Tool from the toolbox and click on any points you wish to edit in areas where the curves don't look right. Drag the appropriate handles to edit the bezier curves.



Resizing windows

When you're using the Zoom Tool, you'll notice the option Resize Windows To Fit in the tool options bar. Selecting this option causes the window frame itself to increase and decrease with your image as you zoom in or out.



3 In the Paths palette, hold down the [Control] key ([Command] on a Mac) and click on your new work path to generate a selection from it. In the Layers palette, select the bottom layer and click on the 'Add layer mask' button at the bottom of the palette. Link all of the existing layers in the Layers palette. Press the [F] key until you're switched to Standard Screen Mode.



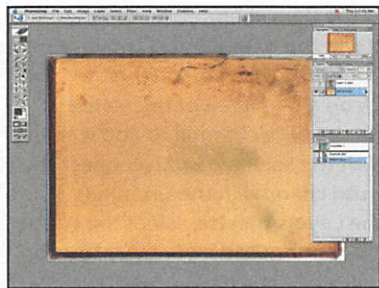
4 Open the file book.tif from the CD. Now, in your statue file, select the Move Tool. Click anywhere on the canvas of your statue file and drag across into the canvas area of the book file. All of the layers move to the other file and remain linked. Press [F] to switch to Full Screen Mode with Menu Bar.

Adjust and prepare

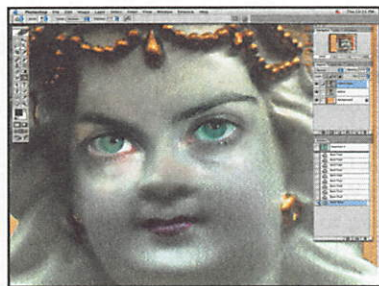
Create a snapshot for use later, and perform exposure and saturation adjustments on layers



1 Choose **Layer > Merge Linked** from the main menu. Use the **Move Tool** to position the layer where you want it and select **Layer > Duplicate Layer** to make a duplicate. Switch off the visibility of the duplicate layer and select the original statue layer. Change the blending mode to **Luminosity** and select **Filter > Blur > Gaussian Blur**. Enter a radius of 7.5 pixels and click **OK**.



2 Select the **Background** layer and choose **Image > Adjustments > Hue/Saturation**. Adjust the **Hue** to 138 and decrease the **Saturation** to about 45. Then, in the **History** palette, select **New Snapshot** from the palette menu. Click on the state before you applied the **Hue/Saturation** adjustment to revert to that state. In the **Layers** palette, delete the **Luminosity statue** layer.



3 Select the statue layer and enable its visibility. Create a duplicate of the statue layer and change the blending mode to **Darken**. Select the **Burn Tool**, specify a 65-pixel-wide soft brush tip in the tool options bar and set the range to **Shadows**. With the **Exposure** set to 40%, paint over the facial features of the statue to darken the shadows and increase image contrast.



4 Create another duplicate of the original statue layer and drag it to the top in the **Layers** palette. Change the blending mode to **Saturation** and select the **Sponge Tool**. In the tool options bar set the **Mode** to **Saturate**, the **Flow** to 50% and specify a soft brush tip with a diameter of 50 pixels. On this layer, paint with the **Sponge** over areas such as the statue's eyes and lips, as well as the gold details.



Naming layers

When you're working with multi-layered files, things can get complicated as layers start to accumulate. A good habit to get into is naming your layers appropriately. To rename a layer you can double-click on its title in the **Layers** palette, making the text editable. Alternatively, select a layer and choose **Layer Properties** from the **Layers** palette menu, then rename the layer in the dialog box that appears.



View at 100%

If you wish to view your image at 100% quickly, you can choose **View > Actual Pixels** from the menu or click on the **Actual Pixels** button in the tool options bar when you have the **Zoom** or **Hand** tools selected. An even quicker way is to double-click the **Zoom Tool** button in the toolbox.

Using layer masks

Use the Magic Wand to define the areas of a layer mask, and use gradients to edit it further



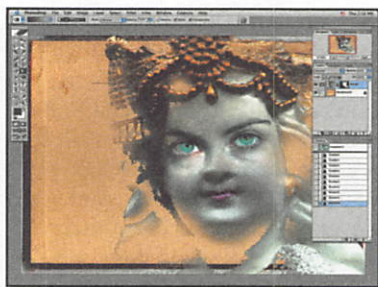
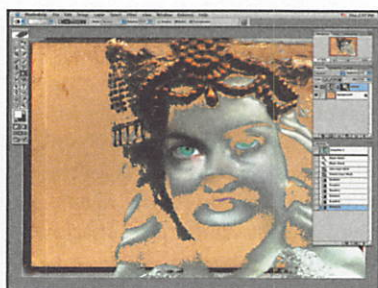
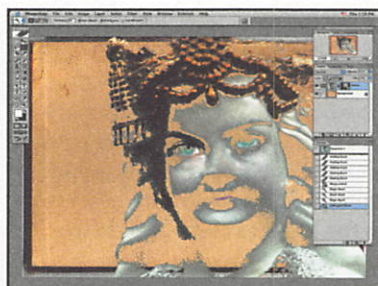
Foreground and background colours

The foreground colour is often used for painting and the background colour is often used for deleting. You can click on either swatch to specify a colour from the Color Picker. To reset them to their default black and white setting click on the reset button to the lower-left of the swatches in the toolbox, or press [D].



Toggling colours

Now you know how to set the foreground colours to their default settings – but what about switching them so the foreground colour becomes the background colour and vice-versa? No problem – either click on the switch button to the upper-right of the swatches in the toolbox, or hit [X].



1 Link all of the statue layers in the Layers palette and choose Layer > Merge Linked from the main menu. Select the Magic Wand Tool. Set the Tolerance to 50, make sure Anti-aliased is enabled and that Contiguous is deactivated in the tool options bar. Click on a light area of the statue's face to generate a selection based on the colour selected.

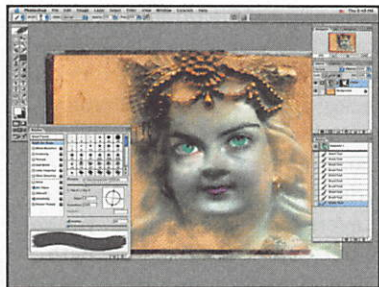
2 Select the Blue channel in the Channels palette. In the Magic Wand Tool options, choose Contiguous. Then hold down the [Shift] key and click on a dark area of the statue's crown within the blue channel to add it to the selection. With the selection active, select the RGB composite channel in the Channels palette. In the Layers palette, select the statue layer and click on the 'Add layer mask' button.

3 Select the Gradient Tool and specify a foreground colour of white. In the tool options bar, open the Gradient Picker and choose the Foreground to Transparent option. Select the Radial Gradient option and make sure that the Dither and Transparency options are enabled. With the layer mask selected, click and drag to create a radial gradient that extends from the centre of the statue's eye.

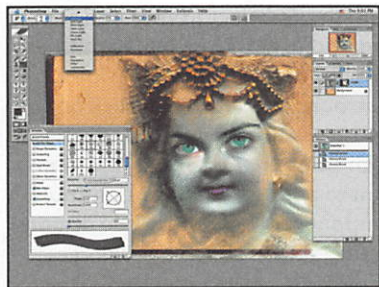
4 Use this same method of clicking and dragging to create gradients within the layer mask to expose other areas of layer content in a subtle and graduated way. Then switch the foreground colour to black and use the Gradient Tool to mask, rather than reveal, some of the content on the layer.

Painting and History

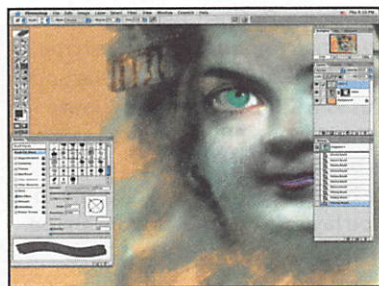
Customise an existing brush preset and paint on a series of layers using the History Brush



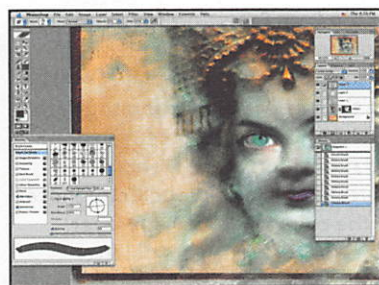
1 Select the Brush Tool and open the Brushes palette. Select the Spatter 59 pixels preset. Set the spacing to 1, and adjust the angle slightly. Enable Wet Edges and Smoothing, and reduce the brush opacity to 25%. Paint strokes within the layer mask, toggling between black and white to hide and reveal areas of the layer, to edit the layer mask and give the layer a painterly look.



2 Select New Brush Preset in the Brushes palette menu. Name your current brush and it's added to the list of preset brushes. Select the History Brush Tool. In the Brushes palette, select your new brush preset to use with the History Brush. Specify your saved snapshot as the source. Select the statue layer (not the mask), set the blending mode of the brush to Overlay and reduce opacity to 25%.



3 Paint some strokes on the layer with the History Brush; notice that only the strokes in visible areas within the layer mask can be seen. Switch the History Brush blending mode to Color Burn and paint some strokes over the darker areas of the face. Create a new layer and switch the brush mode to Normal. Paint some strokes using the current brush size and opacity setting on the new layer.



4 Create a new layer with a Color Burn blending mode. Increase the size of the brush tip and vary the angle in the Brushes palette. Paint a series of strokes with the History Brush on this layer. Next, create another new layer and this time change the mode to Color Dodge. Paint strokes on this layer too, but this time try a number of variations in size and opacity when you paint.



Hide a mask

Do you ever wonder what layer content that's hidden by a layer mask looks like? Well, if you want to have a peek without adjusting the mask itself there is a way. Just hold down the [Shift] key and click on the layer mask icon. A red X will appear over the mask icon and the mask will be hidden. Hold [Shift] and click on it again to re-enable the mask.



Print size

When working with images that are destined for print, your resolution settings are usually 300 pixels per inch or greater. This makes it tricky when you want to use the Zoom Tool to view your image at its print size. If you view at 100% it will be much larger, because this is taking into account screen resolution, which is 72ppi (or dpi). Click on the Print Size button in the tool options bar when using the Zoom Tool to view your image at its printed size.

Custom shapes

Now we'll create a custom shape that we can use throughout the image in different styles



Rasterizing shapes

Because shape layers are vector-based, there are a number of pixel-based effects that can't be applied to these layers. For instance, you won't be able to apply a Gaussian Blur filter effect to a shape layer unless you convert it to pixel data. To convert a shape layer, choose **Layer > Rasterize > Shape** from the menu.



1 Open the original file *goddess.tif* again, but don't close your working file. Select the Pen Tool. Zoom in on one of the complete fish in the background. Enable the Shape Layers option in the tool options bar. Begin to draw a path around the fish by clicking and dragging. Reduce the opacity of your shape layer in the Layers palette to see what you're doing a little better, and complete the path.

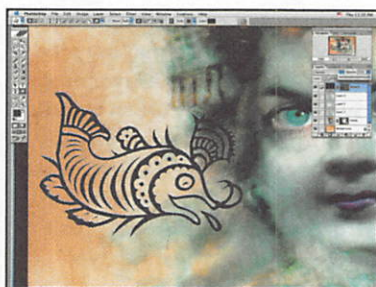


2 Click on the 'Subtract from shape area' button, and use the Pen Tool to draw any closed path components you wish to knock out of the surrounding path. Then click on the 'Add to shape area' button and draw a series of closed path components around the areas that you want to add to your path. Continue drawing components using these two options until you've traced the fish to your liking.

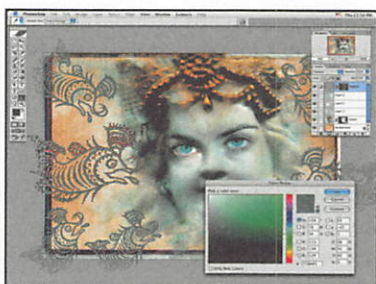


Clear History

Everything you do in Photoshop is logged within the History palette. Depending on how your preferences are set, there may be any number of states residing within the History palette at a given time. Sometimes it can get rather confusing when you look at the contents of the History palette. If this does become the case you can erase all of the states and start afresh by choosing **Clear History** from the palette menu.



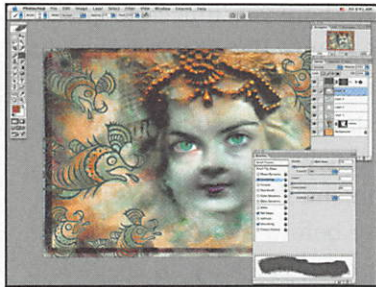
3 Choose **Edit > Define Custom Shape** from the main menu. Name the shape and click OK. Return to your working file and Select the Custom Shape Tool. Select your shape from the Custom Shape picker in the tool options bar and click and drag on the canvas while holding down the [Shift] key to create a shape layer from your custom shape. Increase the opacity of the layer to 100%.



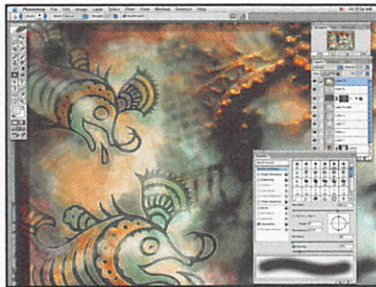
4 Select the Path Selection Tool, and click and drag your shape while pressing [Alt/Option] to copy it within the layer. Make more copies, then select each using the Path Selection Tool and Use **Edit > Free Transform** to resize and reposition them. Double-click the shape layer icon to access the Color Picker and change the colour of the shape layer. Add a stroke effect in the Layers palette.

Finishing up

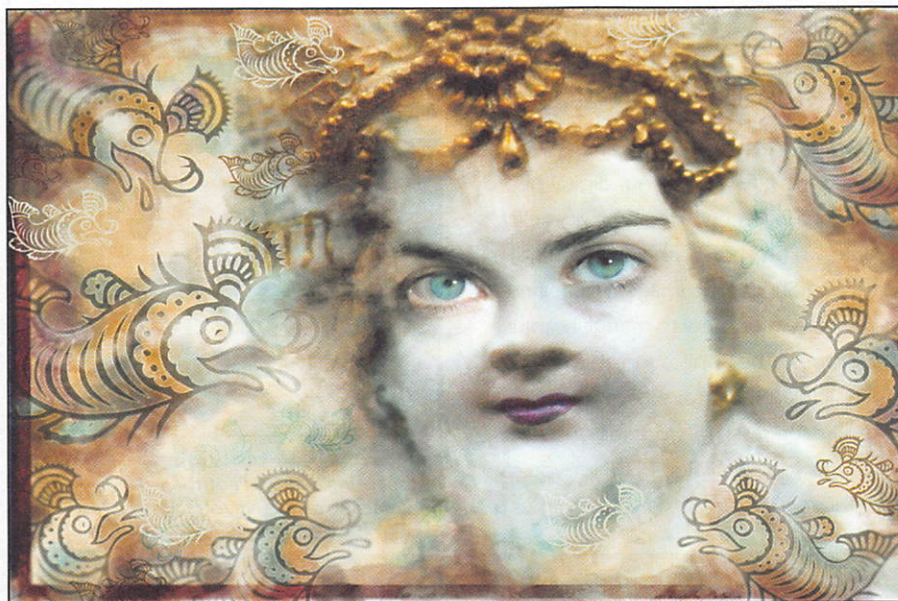
Embellish the image by painting with the Brush Tool, then use the Blur Tool to soften areas



- 1 Select the Brush Tool, choose the custom preset you created earlier and enable Scattering. Create a new layer and drag it below the shape layer in the Layers palette. With your brush opacity set to 25% and the mode set to Normal, start painting small strokes of colour on the layer. Sample a variety of colours from the image and paint them under the fish and around the edges.



- 2 Change the shape layer's opacity to 75% and the blending mode to Multiply. Create a new layer on top of it with a Screen blending mode. Reduce the Brush diameter to 31 pixels and paint on this layer using lighter colours. Create a final layer on top of the others and select the Blur Tool. Select a soft, round brush tip and enable the Use All Layers option. Paint over areas of the image to soften them.



Don't stop there

This project is designed to lend itself to further experimentation and embellishment. All the elements are already there, and can be used over and over again. Your saved snapshot, custom shape and custom brush preset can be used again combined with layers, tools, and blending modes to refine your image further.

On your CD-ROM

Featured resources...

- ☐ Red Eye Pilot 1.0
- ☐ 20 fantastic Photoshop plug-ins
- ☐ Photoshop CS training videos
- ☐ 20 superb images from AbsolutVision
- ☐ Exclusive tailor-made video lessons
- ☐ O'Reilly book samples
- ☐ BroadbandNow! Issue 1
- ☐ Tutorial files

Here's how to get the most from the disc that accompanies your Focus Guide

To access the wealth of resources and software on your disc, including the full version of Red Eye Pilot 1.0, first insert the CD into your drive. Whether you're using a Mac or a Windows PC, the disc will work equally well. If the disc interface doesn't run automatically, look at the facing page to find out how to start your installation manually.

Before you go on

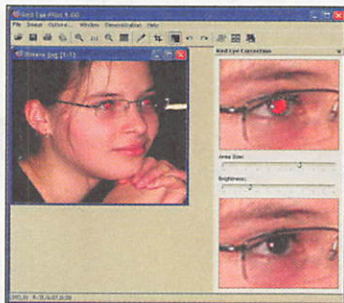
The first item that should appear on your screen is the disclaimer

window; here you'll need to click on 'I Accept'. Please remember that this disc has been scanned and tested at all stages of production, but – as with all new software – we still recommend that you run a virus checker before use. We also recommend you have an up-to-date backup of your hard disk before using this disc. Future Publishing does not accept responsibility for any disruption, damage and/or loss to your data or computer system that may occur while using this disc, or the data and programs on it. Please

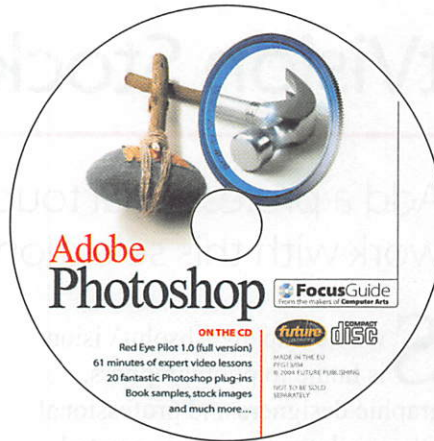
RED EYE PILOT 1.0 FULL VERSION

Remove annoying red eye effects

This full unrestricted version of Red Eye Pilot is an easy-to-use tool for removing the red eye effect from your digital photos with just a few of clicks – no experience required. Just click on the offending eye, and in most cases the program will instantly apply a correction. Should the image require fine-tuning, you can use the correction view to manually adjust the pupil area and brightness. The application also retains the structure of the pupil. In addition to red eye removal, the program also offers image resizing, cropping and greyscale conversion. After you install Red Eye Pilot, you can see the demo by running it from the demonstration menu.



You can correct eye colour in an instant using Red Eye Pilot, then fine-tune the results if necessary



consult your network administrator before attempting to install any software on a networked PC.

Installation

Once your CD interface has loaded, you can access any of the files, software and other resources included directly from your CD. Simply click on the animated 'Click' link and choose the section that you're interested in from the menu. The video tutorials require the latest QuickTime Player, from www.apple.com/quicktime/download.

If you have a query about your disc, email our support team at support@futurenet.co.uk for help. If you want to talk to a member of the team, call 01225 822743. Note that we can only provide basic advice on using the disc interface and installing the supplied software. We cannot give in-depth help on specific programs, or on your particular system configuration.



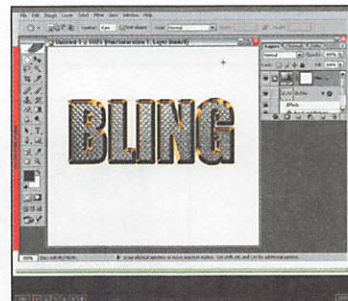
Starting your installation manually

PC users: click on the Windows Start button and click Run. Then click Browse and go to the CD directory in My Computer. Look for a file called PFGi.exe and double-click it. Then click OK in the Run dialogue, and the CD should then load up. **Mac users:** Double-click the disc icon, then double-click StartMAC or StartOSX, depending on which OS you're using.

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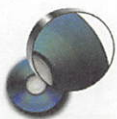


Colin Smith shows you how to add 'bling' to your images, and lots of other great special effects

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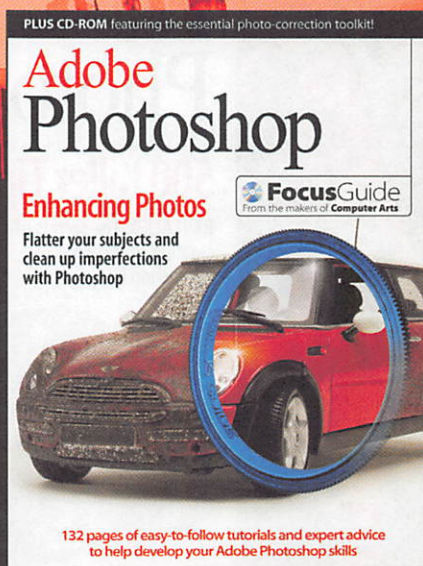
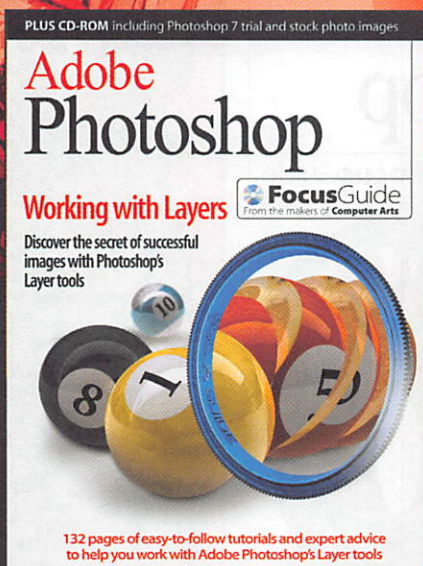
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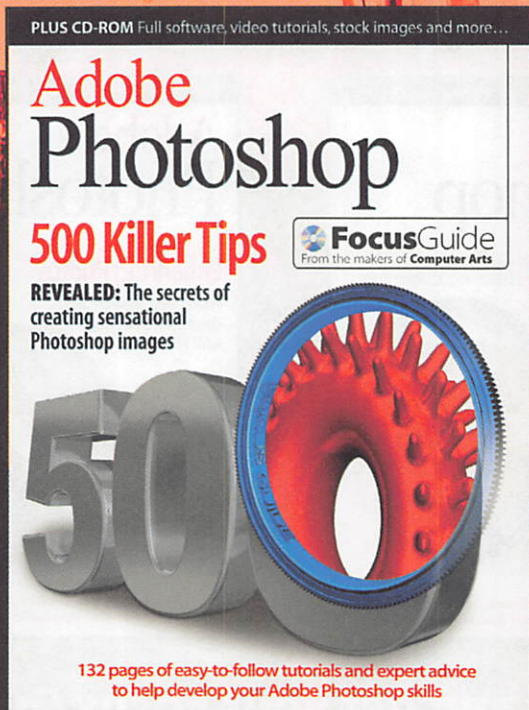
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Glossary

We always try to cut out the jargon, but it helps to add a few words of Photoshop-speak to your vocabulary...

Anti-aliasing

Moving pixels around can cause undesirable jagged edges to appear, where edited pixels have not blended smoothly together. Anti-aliasing refers to the process of smoothing out these jagged edges for a more natural look.

Blending modes

Blending modes are used to determine how the pixels in a layer are blended with underlying pixels on other layers. By applying specific blending modes to individual layers, you can create a wide variety of effects.

Brushes

Brushes enable you to paint on Photoshop images with colour, other bits of images and predefined patterns. They mimic real brushes in that you can alter their size, hardness and texture in order to achieve the effect you want.

Calibration

The process of adjusting a device to bring its behaviour into line with a known specification, helping to reproduce colours accurately. For example, colour monitors are calibrated to a specific colour temperature, gamma, and black and white luminance.

Colour channels

There are three or more colour channels in all full-colour images, depending on which colour mode you're using. For example, RGB mode contains red, green and blue channels, while CMYK mode contains cyan, magenta, yellow and black channels. Photoshop enables you to alter each channel independently.

Filters

A filter is a preset tool within Photoshop, which applies an effect to an image (or a selection within the image). Some filters apply their effect in one click, while others offer more complex settings. Filter categories include Sharpen, Blur, Artistic and Stylize. Each of these offer further options via fly-out menus. For a complete list, click in the Filter menu.

Gamut

The range of colour that a device (such as a printer) can produce, or the range of colour that a colour model can represent. If a colour is said to be 'out of gamut', it will not be reproduced accurately by the printing process or other intended destination.

.GIF (or .gif)

A type of image file format best suited to producing simple images for the web. Examples include logos, banners, buttons and anything made up of only a few flat colours.

Greyscale

An image is greyscale if it contains no colour information. Using Photoshop you can transform a colour image into black and white, with many gradations of grey, in a single channel. This is known as a greyscale image.

.JPG (or .jpeg)

A type of image file format that gives a desirable combination of small file size and good-quality photo reproduction. It's commonly used in digital cameras to store the images that you take. The small file sizes also make it ideal for the web.

Layers

Layers containing effects or elements of images can be stacked on top of the original image layer (the background) in order to change the appearance of the image. Layers do not directly affect the layers beneath them, just as a blurry piece of glass placed over a photograph does not actually affect the photograph; in both cases, it's the appearance that has been changed, with the original image left unaltered.

Marquee

The flashing dotted outline that surrounds a selection. You'll also see it referred to in some places as 'marching ants'.

Rasterize

When you 'rasterize' a graphical element, you convert it from a vector to a pixel-based image. It will no longer be scalable like a vector, but can still be edited, like other images in Photoshop.

Resolution

A measure of how many pixels make up an image. A resolution of 300dpi (dots per inch) is recognised as the minimum if you're intending to print your images. 72dpi is sufficient for images intended for the web.

Selection

Any part of an image which you select with Photoshop's tools, usually indicated by a marquee around it. Making selections enables you to work on parts of an image, or remove them, without affecting the rest of the image.

Thumbnail

A small, 'thumbnail-sized' version of an image. You'll find

them in folders of images and in Photoshop's File Browser. Because they're smaller than a full-size image they're fast to load, and you can browse through them more quickly, which makes finding the file you're after much easier.

Pixel

An abbreviation for 'picture element', it's essentially a tiny dot of colour on screen. Most images are made up of millions of pixels, which combine to make an image look seamless. Zoom-in very close to an image, however, or enlarge it to a high degree, and you can clearly see these individual pixels.

PSD

Photoshop's own file format, which preserves elements such as layers and channels. If you're editing an image file, it's sensible to save it as a PSD, in order for the changes you've made to remain editable when you next open it.

Spot colour

A method of specifying and printing colours in which each colour is printed with its own separate ink. In contrast, process colour printing uses four inks (cyan, magenta, yellow and black) to produce all other colours.

Tool options bar

When a tool is selected, the corresponding tool options bar automatically appears along the top of the Photoshop window, giving you access to various options relating specifically to that tool. These often include effects such as Anti-aliasing and Feathering.

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